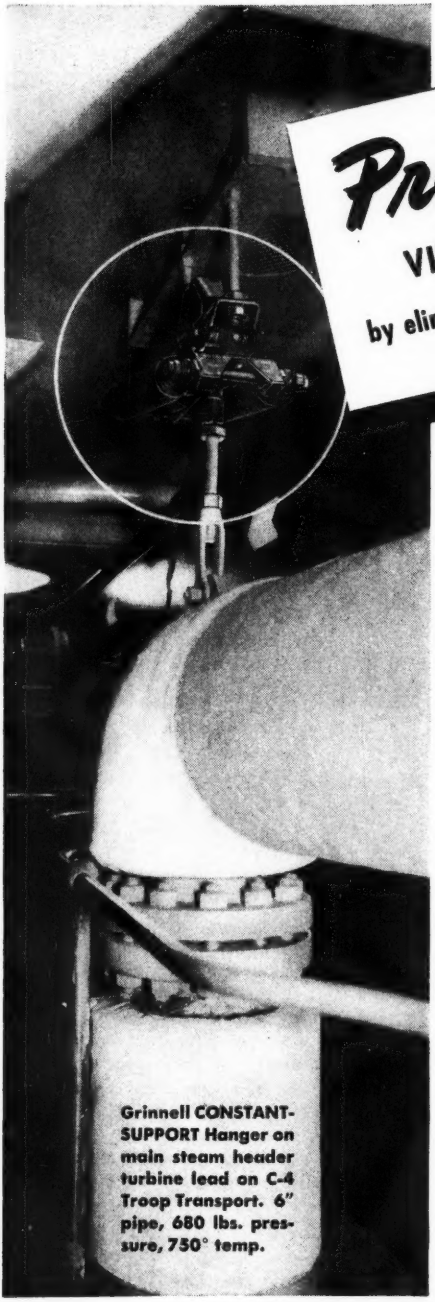
Public Utilities

FORTNIGHTLY

August 3, 1944

PUBLIC UTILITIES REPORTS, INC.
PUBLISHERS



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Public Utilities Fortnightly

VOLUME XXXIV *August 3, 1944* NUMBER 3

Contents of previous issues of PUBLIC UTILITIES FORTNIGHTLY *can be found by consulting the "Industrial Arts Index" in your library.*

¶ *This magazine is an open forum for the free expression of opinion concerning public utility regulation and allied topics. It is supported by subscription and advertising revenue; it is not the mouthpiece of any group or faction; it is not under the editorial supervision of, nor does it bear the endorsement of, any organization or association. The editors do not assume responsibility for the opinions expressed by its contributors.*

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Pages with the Editors

WE were quite amused, in the Victorian sense, by the editorial fun which our venerable and esteemed contemporary, *The New York Times,* recently had at the expense of Mayor LaGuardia's proposed "transportation tax," to finance the perennial deficits which result from the operation of New York city's subways. The 5-cent fare, under which New York city transit has ever been traditionally conducted, has naturally grown into the status of a politically sacred cow.

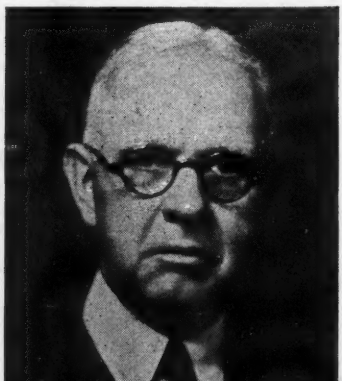
IT is, therefore, "of the essence," as the lawyers say, for the politicians to work out some way of operating the city transit system on a relatively solvent basis while at the same time leaving this pleasant animal to graze at ease in the city pasture. By the same token, it is just about as difficult as solving the old dilemma of having one's cake and eating it too.

MAYOR LaGuardia's proposed "transportation tax" reduces the whole problem to almost absurd simplicity. For those readers who are not familiar with the New York city subway setup, the situation might be summed up in a nutshell by saying that the city charges subway passengers a nickel for a ride which costs from 7 to 8 cents, according to various estimates. A margin of 2 cents over the present nickel fare is probably the minimum for the city even "breaking even" on its transit business.

E. F. DOWNS

There will always be mass transportation; but what kind, how much, and who pays?

(SEE PAGE 135)



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LUTHER R. NASH

The innate perversity of inanimate objects is shown by their refusal to retire according to orderly life table theories.

(SEE PAGE 146)

MAYOR LaGuardia would avoid a fare increase by shifting the deficit burden to the backs of other classes of taxpayers. Renters, lodgers, hotel guests, as well as owner occupants, would fork over 2 per cent every year of the rental value of their real estate holdings or interests. Businessmen would pay 1 per cent, as well as beneficiaries of mortgage payments. Employers would withhold 40 cents a week from the wages or salaries of the subway commuters. This would just about touch everybody, except members of that valiant and carefree clan who habitually sleep in parks and (with poetic irony) sometimes in subway stations.

THE sole virtue of this complicated juggling and balancing of imposts would be to keep the good old subway fare at its present nickel level. New York citizens would still have to pay the extra pennies to support the subways; but these pennies would not go into

the subway turnstiles. They would merely reach city hall by a different route as taxes.

THE *New York Times,* with tongue in cheek, wonders whether the mayor's proposed adventure into public ownership subsidy, which offhand seems to be wandering in the direction of the late Henry George's single tax, doesn't open up thrilling possibilities for the proletariat and the consuming public in general. Why can't we just go to the store and buy a $100 suit of clothes for $75 and make the city pay the rest out of general taxes? Why can't we make all restaurants serve us $1 meals for 50 or 60 cents, and charge the rest to taxes?

WHERE is the limit, indeed, to this free and easy method of voting ourselves, as the consuming public, any number or manner of subsidies simply because we are politically in the majority and therefore outnumber a few classifications of taxpayers who happen to get hit first and hardest? The obvious answer, of course, lies in the final responsibility of the community to absorb such economic distortions and dislocations.

IF it were simply a question of 90 per cent of the people voting themselves a subsidy at the expense of the other 10 per cent, it might conceivably go on indefinitely, or until the 10 per cent were liquidated." But under our still prevailing capitalistic system, with its economic checks and balances, such an easy solution can never be. The 10 per cent always have a way of charging back the excess in various forms against the other 90 per cent. And at the end of the year even the humblest citizen, if his arithmetic were adequate, would simply find that the same money had been merely changed around in different pockets in the same economic pair of pants.

HENCE, *The New York Times* rightly asks, why all the bother and artificial juggling, simply to preserve a misleading symbol. This, for the welfare of succeeding generations of politicians, who would sooner welcome an earthquake to Manhattan than accept the technical responsibility of increasing the fare of New York subways to the point where the rider actually pays for his ride.

SPEAKING of municipal transit problems, in this issue we have a forward-looking discussion of urban carriers, their past and future, by E. F. DOWNS, Chicago engineer, and S. J. KONENKAMP, Chicago attorney, who have collaborated previously on articles on transportation which have appeared in this magazine.

THE article on the power controversy in Quebec, which appears in this issue, page 158, is the product of a new contributor to these pages, A. E. PERKS. Born in Kidderminster, England, in 1887, MR. PERKS received a thoroughly international education in Scotland, Belgium, France, Germany, and Holland.

A. E. PERKS

We haven't heard the last of the Canadian fight over electric power.

(SEE PAGE 158)

During World War I he served with the British army, principally doing intelligence work. (At one time the Germans had a price on his head.) He came to Canada in 1919 and has been on the staff of the *Montreal Daily Star* ever since. He also represents the *London Daily Herald.*

LUTHER R. NASH, whose contribution to our series of articles on the subject of depreciation appears in this issue (beginning page 146), is perhaps too well known an authority on this subject to need further considerable introduction to our readers. A graduate of Massachusetts Institute of Technology and Harvard (SM, '98), MR. NASH was for many years an official of the Stone & Webster organization and is now engaged in engineering consultation at his home in Ridgefield, Connecticut.

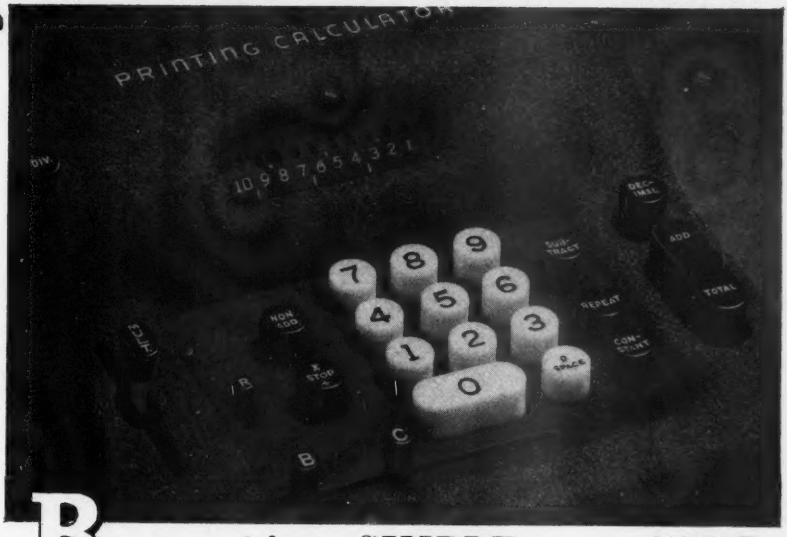
AMONG the important decisions preprinted from *Public Utilities Reports* in the back of this number, may be found the following:

THE jurisdiction of the Federal Power Commission to fix rates in such manner as to abrogate prices agreed upon in contracts entered into by natural gas companies and substantially performed prior to the enactment of the Natural Gas Act, is upheld by the United States Circuit Court of Appeals. (See page 1.)

THE next number of this magazine will be out August 17th.

The Editors

THIS calculator keyboard speeds the work



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This is a machine you've got to see to believe. See it today, at your nearest Remington Rand office.

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In This Issue

In Feature Articles

In Financial News

In What Others Think

In The March of Events

In The Latest Utility Rulings

PREPRINTS FROM PUBLIC UTILITIES REPORTS

Various regulatory rulings by courts and commissions reported in full text, pages 1-64, from 54 PUR(NS)

Remarkable Remarks

"There never was in the world two opinions alike."
—MONTAIGNE

DAVID E. LILIENTHAL
Chairman, Tennessee Valley Authority.

". . . the Tennessee is the first river fully controlled by man, almost as much so as water in a bathtub."

A. C. STIKL
Private, U. S. Army.

"The armed forces have the situation well in hand at the front. Let Congress keep order and democracy at home for us!"

CHARLES A. MERRILL
Writing in Boston Sunday Globe.

"We should let the whole world know in the coming election campaign that, in relation to foreign policy, united we stand."

GEORGE W. NORRIS
Former U. S. Senator from Nebraska.

"I believe we will have some sort of organization among nations to keep the peace, and I am for it, though I was against the League of Nations."

ROBERT A. TAFT
U. S. Senator from Ohio.

"No peace organization will be a success unless the people of this country, including the men who have served abroad, are persuaded in their hearts that the organization is necessary and appropriate to maintain future freedom and peace."

DONALD M. NELSON
Chairman, War Production Board.

"Efforts to beat the gun on the return to civilian business will be unavailing. Their only result will be to slow up war production. No business concern needs to become agitated now about its position on the unknown day when Germany will surrender."

HENRY A. WALLACE
Vice President.

"A Fascist is one whose lust for money or power is combined with such an intensity of intolerance toward those of other races, parties, classes, religions, cultures, regions, or nations as to make him ruthless in his use of deceit or violence to attain his ends."

ROY O. WOODRUFF
U. S. Representative from Michigan.

"We are on our way to achieving an American freedom. We are calling things by their right names and junking, as fast as we catch up with them, those rules, regulations, and practices which were throttling real freedom. Many of our citizens are so bewildered by the petty tyrannies in which they are enmeshed that it is doubtful if they yet fully realize what the resumption of power by the Congress means to them."

WILLIAM H. WADHAMS
Adviser, Chamber of Princes on the Federation of India.

"Stop wars at their source. Stop individuals who promote the causes of war, and you will prevent future wars; you will establish peace on earth."

HAROLD D. SMITH
Director, Bureau of the Budget.

"Business, which has contributed thousands of able bureaucrats to government, should cease thinking of bureaucrats as creatures apart from society."

JOHN W. BRICKER
Governor of Ohio.

"What America needs more than anything else is a balanced Federal budget at the earliest possible date. That would create more jobs than all the projects government can devise."

BEN SCHLOSSBERG
Past president, New Jersey Association of Real Estate Boards.

"The basic purpose of price controls in time of war and in the adjustment period following the war is sound and necessary. When conditions become normal, OPA can be discarded. In the meanwhile, let us continue to fight our enemy at home—inflation, and the causes of inflation."

ROBERT GAYLORD
President, National Association of Manufacturers.

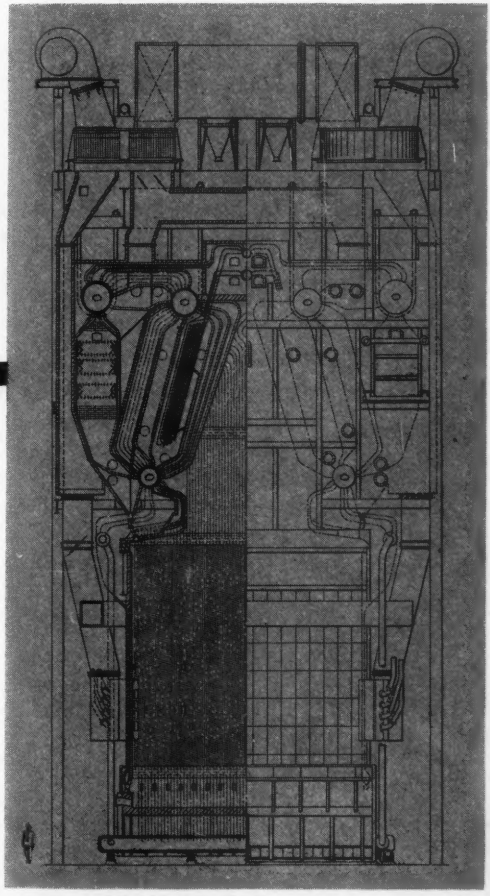
"If the public is deluded by the dream planners' promise of jobs for everyone, it will become so disappointed with the transition period that it will holler for government help. The enterprise system might never get its chance to function successfully. We must not through soft thinking about temporary hard sailing, throw away the greatest potentiality America has ever had. We have all the ingredients present for unusual prosperity. We must put them together correctly."

THOMAS E. DEWEY
Governor of New York.

"There seems to be too little recognition of the fact that free people cannot fight a war with blinders on their eyes. Knowing present dangers and the hardships ahead they will brace themselves to any task. They will sacrifice as deeply as the welfare of the nation demands. They can do neither if they are not told where they are going and why. Our people can take the bad news with the good, but they have a right to know the facts. We need a free, informed people to fight a war for freedom."

ESTES KEFAUVER
U. S. Representative from Tennessee.

"In the prevention of future wars the education of the other nations of the world is a matter of paramount importance. One reason we are a peace-loving people is that we have always been taught that peace is honorable and we have always sought peaceful means of settling disputes. One reason for the rise of the spirit of tyranny and aggression in Germany and Japan is that the children of those nations have been taught that war is honorable and that all personal freedom should be subjugated to the rise of the state."



C-E Steam Generating Unit, installed in 1937 by a large Eastern utility. Designed to produce 1,000,000 lb of steam per hr at 1340 psi and 925 F. Serves 1 — 40,000-kw high-pressure turbo-generator and 5 — low-pressure units with a combined output of 50,400-kw — an aggregate of 90,400-kw.

BETTER than words can describe, the two charts on the left page covering

1. steam output
2. use factor

quickly tell the complete story of the exceptional performance of an exceptional C-E steam generating unit, during the past three years.

Such reliable operation and high steam output has contributed importantly to our national war effort. For this big C-E unit is installed in a power plant of a utility system that serves many war factories and also one of the country's largest coal producing mining areas where it is producing the power needed to mine this critical material upon which so much other war production must rely.

This is another outstanding example of how effectively the public utilities of the United States are meeting the challenge of our wartime emergency. It is also another example of the exceptional performance qualities built into all Combustion Engineering equipment.

A-901

C-E

COMBUSTION ENGINEERING

200 MADISON AVENUE, NEW YORK 16, N.Y.

D U S T—UNDER CONTROL

Dust is a natural nuisance, ever present throughout a changing universe where forces of disintegration and destruction somehow intermingle with constructive processes, striking a balance to perpetuate our world in spite of the: "—to dust returneth" pronouncement on all animate and inanimate things.

If it were possible to make a complete analysis of every minute particle in a handful of city dust, we would likely find traces of all the elements in varying proportions, and no small number of disease bearing bacteria, including many corrosive substances. If it were also possible to trace the source of each particle, it would present a series of pictures to challenge the imagination.

Whatever else may be said of dust, in this instance we are concerned with its effect upon electrical contacting surfaces. When dust is present, the efficiency of the contacts is impaired and the life of their usefulness is shortened. Where the dust is eliminated as in the case of a Mercoid hermetically sealed mercury switch, the contacting surfaces are always constant in their efficiency and the life of the switch is prolonged indefinitely.

Mercoid Controls have an advantage, because they are equipped exclusively with Mercoid DUST-PROOF switches —hence the assurance of better control performance, longer control life and greater economy in control value, regardless of costs.

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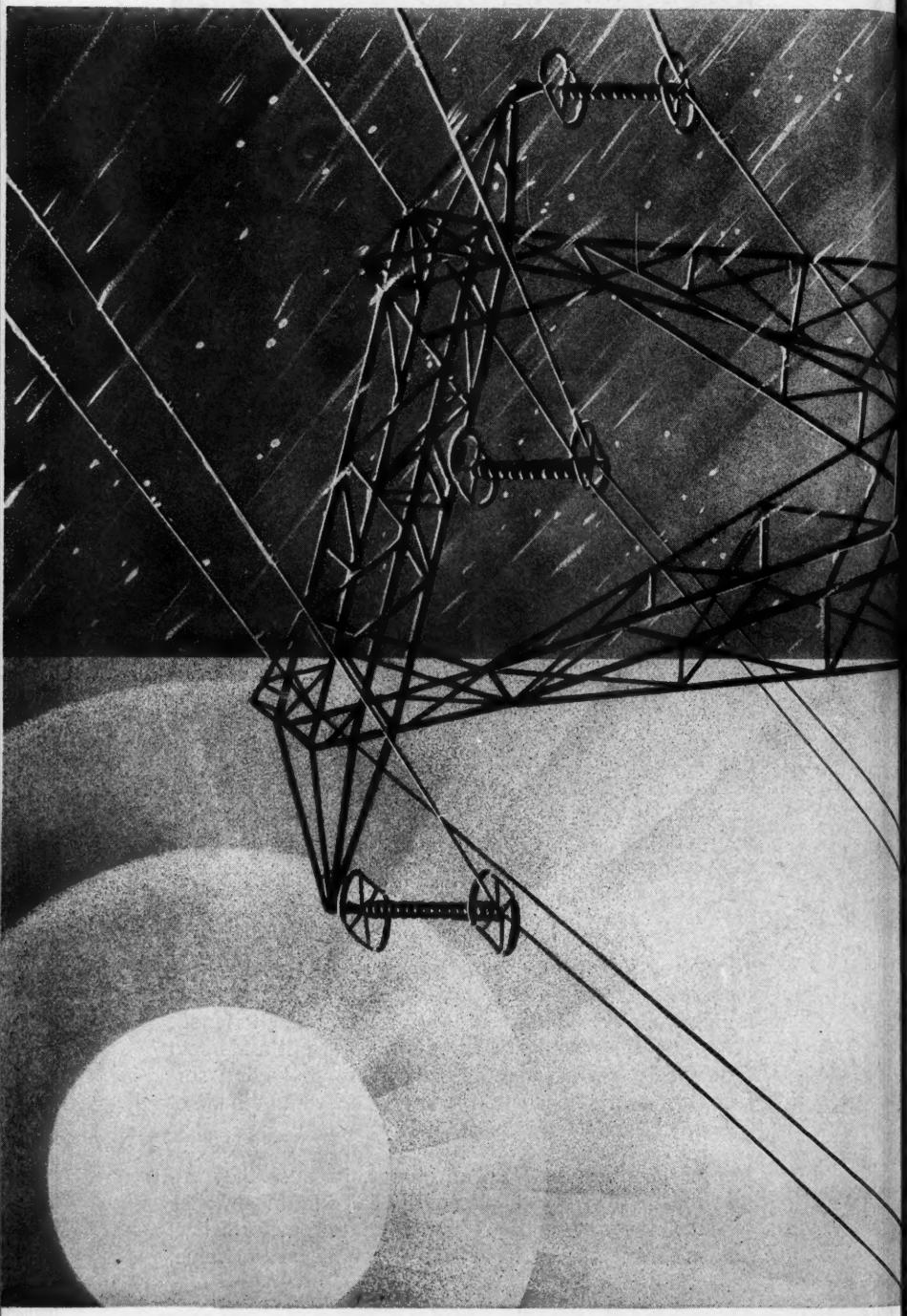

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with these four simple rules
of battery care:

1. Keep adding approved water at regular intervals. Most local water is safe. Ask us if yours is safe.
2. Keep the top of the battery and battery container clean and dry at all times. This will assure maximum protection of the inner parts.
3. Keep the battery fully charged—but avoid excessive over-charge. A storage battery will last longer when charged at its proper voltage.
4. Record water additions, voltage, and gravity readings. Don't trust your memory. Write down a complete record of your battery's life history. Compare readings.

If you wish more detailed information, or have a special battery maintenance problem, don't hesitate to write to Exide. We want you to get the long-life built into every Exide Battery. Ask for booklet Form 3225.

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CHLORIDE
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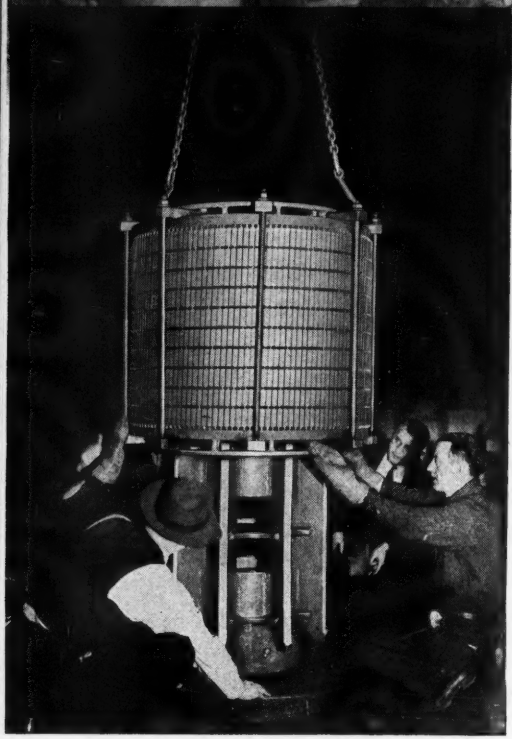
. . . is a vital principle of utility operation!

Conservation of materials is no new story to the men who operate public utilities. With thrift and efficiency they have always planned for conservation.

They've squeezed the last ounce of use out of materials and equipment in their care . . . and today, that need is intensified.

One helpful principle to follow is that of "Buy to Last—Save to Win." Buy quality products and equipment, then care for it to avoid needless replacement. That conserves raw materials, labor, and space in factories. It frees these productive elements for essential war production.

THE ELECTRIC STORAGE BATTERY CO.
Philadelphia
Exide Batteries of Canada, Limited, Toronto



BATTLE STATION

for a critical job

The men in the control room of a submari give the finest possible example of close tea work. Every man has his job, and it's sink swim together — all for one and one for a

The same is equally true in building t propulsion equipment for a submarine. O of those crucial moments of teamwork Elliott Company's Ridgway plant is illustrat in the photo, which shows a hot armatu stacking being lowered for a shrink fit on t spider of a submarine motor.

The men in our Ridgway plant feel th they are brothers in arms of the men in t sub's control room. Though not as hazardo their teamwork is quite as essential to Victor in the proven reliability of Elliott motor

ELLIOTT COMPAN

Electric Power Department, RIDGWAY, P

DISTRICT OFFICES IN PRINCIPAL CITI

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Utilities Almanack

Due to wartime travel restriction, conventions listed are subject to cancellation.

AUGUST

3	Th	¶ *International Association of Electrical Inspectors, Northwestern Section, will hold session, Olympia, Wash., Aug. 21–23, 1944.*
4	F	¶ *International Association of Electrical Inspectors, Southwestern Section, will hold meeting, Modesto, Cal., Aug. 28–30, 1944.*
5	Sa	¶ *American Institute of Electrical Engineers will hold Pacific coast technical meeting, Aug. 29–Sept. 1, 1944.*
6	S	¶ *EEI Accident Prevention Committee will hold meeting, New York, N. Y., Sept. 12, 13, 1944.*
7	M	¶ *American Water Works Association, Western Pennsylvania Section, will hold convention, Pittsburgh, Pa., Sept. 13, 14, 1944.*
8	Tu	¶ *American Standards Association will hold meeting, New York, N. Y., Sept. 21, 1944.*
9	W	¶ *American Public Works Association will hold Public Works Congress, St. Paul, Minn., Sept. 24–27, 1944.*
10	Th	¶ *National Safety Congress will convene, Chicago, Ill., Oct. 3–5, 1944.*
11	F	¶ *American Gas Association will hold annual meeting, Chicago, Ill., Oct. 5, 6, 1944.*
12	Sa	¶ *United States Independent Telephone Association will convene, Chicago, Ill., Oct. 10–12, 1944.*
13	S	¶ *Southeastern Electric Exchange will hold sales conference, Atlanta, Georgia, Oct. 10–12, 1944.*
14	M	¶ *International City Managers Association will hold annual conference, Chicago, Ill., Oct. 12–17, 1944.*
15	Tu	¶ *American Water Works Association, Southwest Section, will convene, Austin, Tex., Oct. 17–19, 1944.*
16	W	¶ *Electronic Parts and Equipment Industry Conference will be held, Chicago, Ill., Oct. 19–21, 1944.*

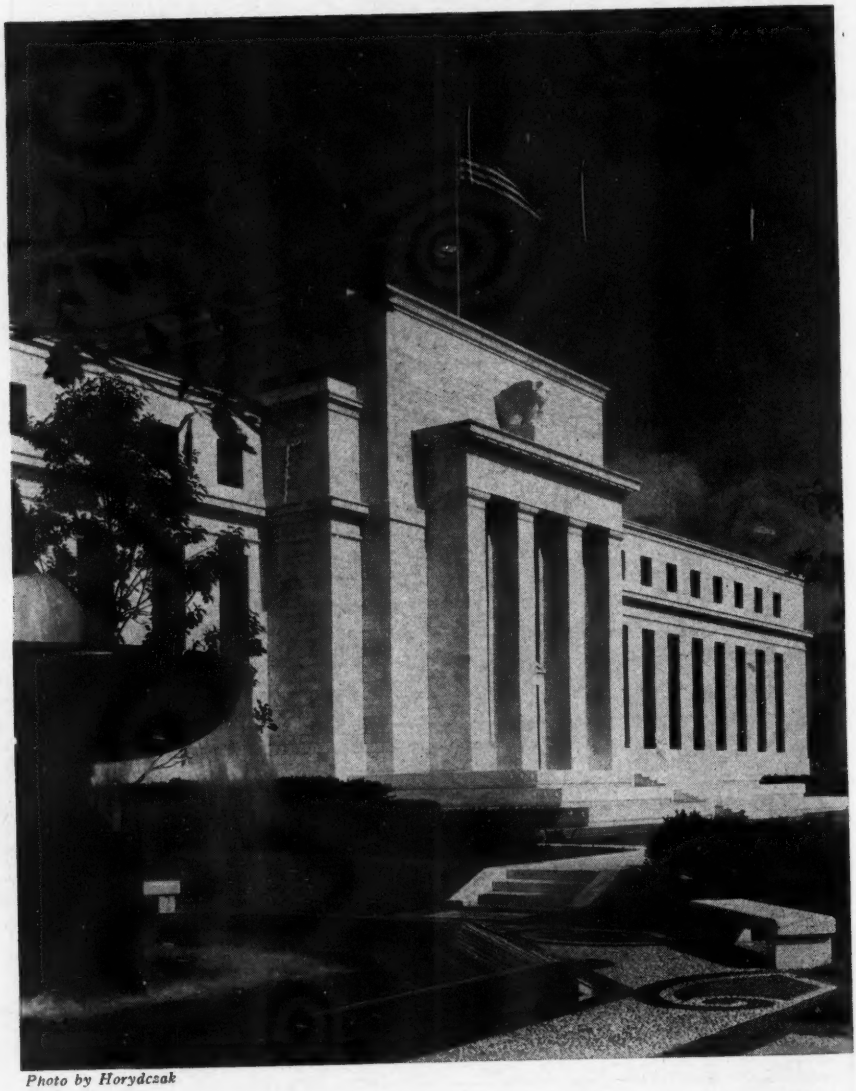


Photo by Horydczak

Federal Reserve Building

Public Utilities
FORTNIGHTLY

VOL. XXXIV; No. 3 AUGUST 3, 1944

Our Vital Urban Carriers, Their Past and Future

Almost invariably, declare the authors, public transportation is found to be more convenient and less expensive than the private automobile for the great bulk of city workers, whether they wear white collars or overalls, but city planners continue to dream of subsidized superhighways.

BY E. F. DOWNS AND S. J. KONENKAMP

WE are often reminded that "the greatest good for the greatest number" is a guiding principle of all democratic governments. Too often, however, pressure groups cut in on that principle, hence the many suffer while the few get the gravy. So it happens that in all postwar plans which have come to our attention, proposals are made to spend untold amounts of public money for this class and that, while nothing is said about the greatest cumulative group extending from coast to coast—the Straphangers of America.

These straphangers, including all who depend on urban transportation, are the backbone of every city of 20,000 or more population. They are, to a great extent, workers engaged in production, therefore the very foundation on which trade and commerce rest. They travel to and from their places of employment by streetcar, bus, steam

and elevated trains, or subways during the week, even though they become the oft-anathematized Sunday Drivers.

Students of civic problems agree that public transportation systems are the arteries of any city of consequence. They recognize antiquated streetcar service as a factor in population decline which has occurred in some cities in the decade ending in 1940, and note that this decline is most apparent in those cities which spent many millions to furnish high-speed exits to suburban areas. Therefore, it may be in order to propose more serious attention to intracity improvements whereby workers might be induced to live within the municipality where they are employed, instead of becoming what ex-Mayor Blithin of Cleveland describes as "common leeches on the body politic." Concerning the loss of city residents to the suburbs, one might paraphrase Oliver Goldsmith's "Deserted Village," where he said:

> For a bold peasantry, their country's pride
> When once destroyed can never be supplied.

The most essential of improvements to be made in cities may be made in common carriers engaged in mass transportation of passengers within the city and contiguous areas.

THE part played by public carriers in the creation of cities generally is conceded to have been major. Whether one belongs to the school of thought responsible for multistory city apartments, or whether one is a disciple of Frank Lloyd Wright, believing that every family should have access to an acre of ground, one fact remains. American cities have invested in real estate ventures and public works billions of dollars which cannot be liquidated overnight. For many years to come, we must put up with our cities as we find them unless the rights of individuals in the ownership of real estate are drastically curtailed.

Decadent conditions are attributable to old age in cities as well as in mankind. Plastic surgery will help appearances whether in the form of face lifting or new façades along our city streets, but in either event such surgery is of little value if the subject suffers from poor circulation. Many cities are afflicted with hardening of the arteries because of poor transportation conditions. A number of metropolitan centers have parking lots today where skyscrapers stood until a few years ago. These parking lots in great measure are for the benefit of suburbanites who work in the cities but who pay their taxes elsewhere. There is an overwhelming absurdity in all planning that proposes heavy spending to provide further high-speed exits from the cities at the expense of city dwellers.

AUTOMOBILE spokesmen deplore the retrogression in automobile ownership caused by wartime restrictions, and state that the 1941 level of registrations will not again be reached before 1949. Currently, 200,000 motor vehicles are being removed from service monthly. In spite of this, planners are panic-stricken at the supposed magnitude of postwar automobile registrations, and assert that we must spend many billions to provide additional roads and highways.

Automobile use does change one's point of view. An owner sagely remarked that he found two natures struggling within him; one when driving, and the other when walking, and

the two attitudes were definitely hostile to each other. Nearly everyone has heard habitual drivers declare that all streetcars and busses should be removed from the streets, but a chart below shows that in metropolitan centers the great majority of people depend on public transportation.

It has been suggested that the city fathers should use public transportation now and then as a novelty, just to get the feel of it. The treatment might be particularly efficacious if two or three transfers were required. Not so long ago, one metropolitan newspaper considered it news that Alderman Jones had taken a streetcar ride, and related his experiences. Unfortunately, the effect was lost upon his colleagues who were more deeply engrossed in plans for superhighways that would furnish a greater number of speedy exits from the city. Almost invariably, public transportation is found to be more convenient and less expensive than the private automobile for the great bulk of workers, whether they wear white collars or overalls.

CHICAGO'S mayor was assassinated fifty years ago because of a traction dispute. Fifteen years later, leading citizens of the city organized a demonstration in the city council cham-

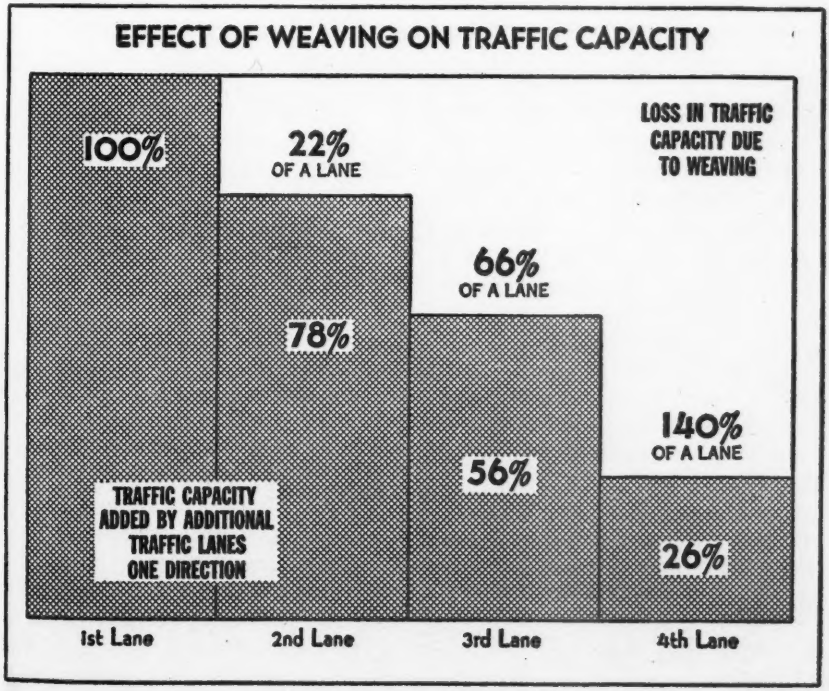


CHART I

ber. While the aldermen meditated on the terms of a traction ordinance, they were reminded of their duty to the people by the numerous nooses held caressingly over the balcony rail by able-bodied and strong-minded citizens.

Traction in those days affected all the people; bank presidents and city officials alike traveled in streetcars. Today, most of the civic leaders live in the suburbs. Too often our educators move to the suburbs immediately after they get a permanent appointment, and all these groups travel by automobile, thereby eschewing the public transportation which is most vital to the city. The city fathers are driven around in municipally owned automobiles, with chauffeurs employed by the city. Thus, the patrons of streetcars and busses have lost champions, both in and out of city government.

After a generation of building hard roads, the planners never had gotten around to determining the efficiency of traffic movement on road surfaces, and it devolved upon the American Transit Association to do the research. Results obtained by this organization are shown in Chart I from "Moving the Masses," reproduced on page 137.

From this chart, it is seen that if one traffic lane be considered as having an efficiency of 100 per cent, the first additional lane adds 78 per cent, the second adds 56 per cent, and the third adds 26 per cent.

Efficiency in passenger movement is demonstrated by considering the hypothetical case of a 60-foot street under three possible conditions:

Media of Transport	*Passengers Per Hour*
Automobiles	3,700
Automobiles and busses	11,130
Automobiles and streetcars	15,630

SIMILAR conclusions have been noted by individual transit companies but although the law of diminishing returns never has been more clearly demonstrated, the planners continue to talk of 8-lane highways, adding 300 per cent to the construction cost in order to increase the capacity 160 per cent.

Thus, the highway planners continue their dreams of multilane, multistory highways in the face of a conclusion made by American Transit Association:

> One of the most important, and at the same time most controversial and least understood, problems of the modern city is that of improving its transportation or circulatory system. The transit industry, therefore, believes that there is a great need of examining every (traffic improvement) proposal critically to determine the extent to which it is based upon sound technical and economic considerations. Such examination will direct attention to the importance of giving far greater consideration than many current plans envisage, to the development and improvement of the vital public carriers.

Up to now, we have failed to note where any city planners have given serious consideration to the foregoing facts. Unfortunately, and regardless of the reasons which prompt them, nearly all plans call for new work and heavy expenditures in preference to providing for some degree of efficiency in use of the public works and facilities which already exist.

THE shortsightedness and shallow reasoning evidenced by agencies planning superhighways for the few and ignoring the public transportation needed by the many is difficult to understand, unless one attributes these shortcomings to residence in the suburbs, automobile ownership, and avoidance of streetcars. Even gasoline rationing fails to change the point of view; presumably, the planners rate C cards.

Decadent Conditions in Cities

"DECADENT conditions are attributable to old age in cities as well as in mankind. Plastic surgery will help appearances whether in the form of face lifting or new facades along our city streets, but in either event such surgery is of little value if the subject suffers from poor circulation. Many cities are afflicted with hardening of the arteries because of poor transportation conditions. A number of metropolitan centers have parking lots today where skyscrapers stood until a few years ago."

Whether or not the thought is palatable, the fact remains that the nation's street and highway systems have received enormous subsidies since early in the 1920 decade. Public transportation has been allowed to sink or swim as best it may.

The greatest single fallacy in recent industrial and city planning has been to ignore the value of public transportation. Numerous city and suburban subdivisions have been made with the underlying philosophy that every property owner would drive to work, and many such show vacant lots fronting on more than half the improved streets twenty years later. Industrial plants by the score have been built out in the country, and today their workers wonder where next week's ride is coming from. Here, in particular, the public transportation industry has fallen down on the job, for some such plants still show a proportion of a thousand automobiles for each bus.

IN the development of cities, the public transportation industry has played an important rôle. The growth of this industry from horsecars through cable cars and with electric traction was rapid, coincident with the high rate of growth in cities. From their beginning through 1920 the urban public carriers enjoyed marked success, and from the turn of the century until World War I expansion took place in the interurban field. The interurban enjoyed a short life because of the advent of the automobile, while the urban public carriers reached an all-time popularity in 1920 then declined to the depths of depression in 1932. While the interurban was dying throughout

the nation, the streetcar passed out in the smaller communities, and its use decreased in cities of over one-half million population. Decentralization was taking place even at that time, and the public carrier used for sparsely settled areas and new developments was the bus, while the less profitable lines saw busses substituted for streetcars.

The promise of a future for urban rail transport was anything but bright during these depression years, yet hundreds of millions of dollars had been invested in track and facilities with many years' remaining useful life.

THE Presidents' Conference Committee Car may be called the child of depression. This revolutionary design was born of a desperate effort to give to public transportation patrons the best service that could be devised by the best talent of the transit industry. By thus pooling resources, street railway operators showed resourcefulness comparable to steam railroads' adoption of streamliners, and revenues showed comparable gains in both cases. Wherever the PCC Car has been adopted in modernization programs, the results have been most gratifying.

For twenty years the death of the streetcar within the next ten has confidently been forecast by city planners. Presumably they based their estimates on the national picture which showed a downward trend beginning in 1923. Such forecasts ignored the flat trend of streetcar rides in cities having more than one-half million population. The streetcar as a means of urban transport still is a very lively corpse, and real estate interests concluded that improvement of their holdings might be effected by expanding streetcar services.

Methods by which people get about in cities differ somewhat, but the competition between the private automobile and public transportation follows a general pattern, shown by Chart II from "Moving the Masses," reproduced herein.

THIS chart makes a breakdown into six population groups. Other indications are that all centers of population may be placed in three general groups, each containing border-line cases. The small city with a population somewhat less than 100,000 retains many rural characteristics, and from a public transportation viewpoint offers a market only for small and inexpensive busses. The next class, or medium-sized city, has an upper population limit somewhere in the order of 1,000,000 and offers a continuing rich field to public transportation enterprises. Boston, Pittsburgh, Buffalo, Cleveland, Denver, San Francisco, Milwaukee, Washington, and St. Louis offer examples, every one of which requires mass transportation, with both busses and streetcars as vehicles.

Finally, the large cities or metropolitan centers include New York, Chicago, Philadelphia, and possibly Detroit and Los Angeles. Regardless of the amount of streets, highways, and superhighways furnished in this class of city, the great majority of people will continue to use public transportation as they have in the past. They can't afford anything else. The problem is purely economic, and the automotive propaganda which complains of the city people who *refuse* to drive to work possesses the same amount of sense as the assertion that a penniless starveling refuses to eat.

PUBLIC transportation operators have nothing to gain from any highway development which may be made. Any small increment of revenue which might be derived if a bus franchise were obtained on a superhighway is insignificant in comparison to the lost revenues and added taxes which the utility will be obliged to bear in maintaining a luxury. Why, then, should surface transportation managers who know their business join in superhighway proposals?

In the early days of the transit industry cities vied with each other in setting up burdensome restrictions on public carriers. Some localities required the carrier to pave between the rails; others added the burden of paving the devil-strip, while occasionally a town or village was found which required that the carrier furnish and maintain the paving on the entire width of street from curb to curb. Taxes also were levied, usually with the underlying philosophy that a great and valuable privilege was being granted to the utility by the city.

Chicago collects a pernicious discriminatory tax from utilities which is euphoniously described as "compensation for use of the streets." This special tax for many years brought into the city coffers over three million dollars an-

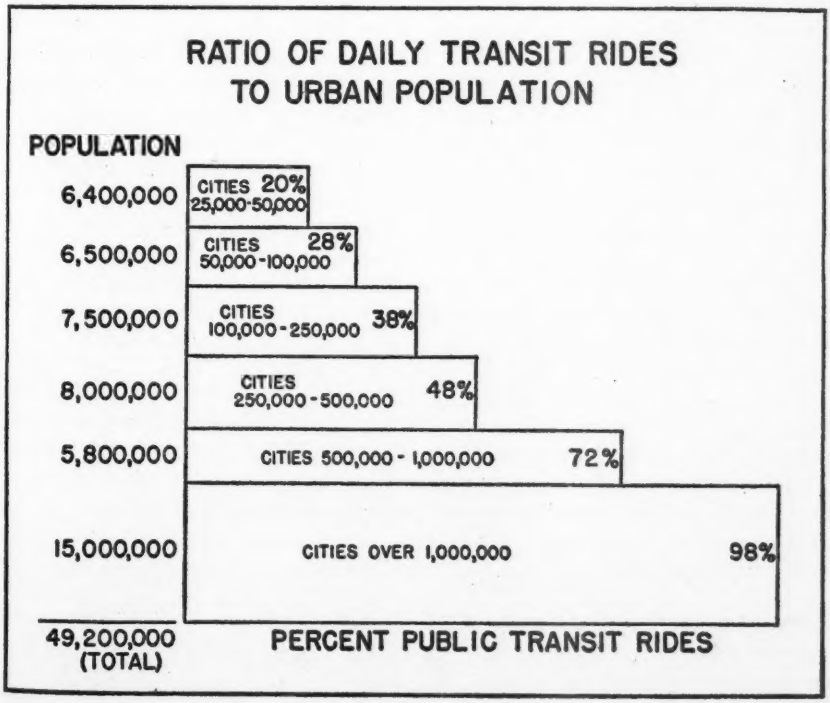


CHART II

Tabulation of Maintenance of Way Charges and Compensation
Expressed As Per Cent of Gross Revenue

Company	*M of W charges*	*Compensation*
Chicago Rapid Transit	10%	3%
Chicago Surface Lines	5%	3%
Chicago Motor Coach	None	5%

nually from the transportation utilities alone, while the communications and electric utilities paid another $4,000,000 for the supposed privilege of helping Chicago to grow.

The logic behind this so-called "compensation" is difficult to follow, but its importance as a cost of doing business is all too evident as outlined above.

CHICAGO RAPID TRANSIT COMPANY, which operates almost exclusively on private right of way, and Chicago Surface Lines, which handles the bulk of the public transportation business and furnishes its own paved right of way on city streets, alike pay this so-called "compensation." Chicago Motor Coach Company which furnishes only rolling stock, and uses boulevards under control of the Chicago Park District as its place of business and right of way, pays "compensation" to the District.

In attempted justification of this discriminatory tax, the city offers five examples where so-called compensation is charged. Three of these are exclusively bus operations and the other two are not comparable to Chicago. To levy a charge against the operators of busses as is done in Washington, D. C., in Milwaukee, and in Baltimore is an attempt on the part of the municipalities in question to make up some of the deficit set forth by the Federal Coördinator of Transportation in the report which showed that the common carrier bus pays 1.54 mills per ton mile in contrast to the 2.66 mills per ton mile paid by the private passenger automobile. In addition, busses invariably destroy the street surfaces over which they operate, whether the surface be 9-inches-thick concrete or the best grade of asphalt on a concrete base.

A CONTINUING burden on public transportation enterprises throughout the automotive era has been the arbitrary attitude exemplified by city administrations in connection with street widenings and changes of grade. In many instances the franchise requires that changes in the public transportation facilities necessitated by street changes are to be borne by the company, and the city or state administrations frequently have tried to enforce this provision, at times unsuccessfully. At the same time the administrations were unwilling to bear any of this burden, and the companies felt that it was unjustified, with the result that grotesque conditions sometimes are found.

These special taxes are levied in addition to the ordinary assessments upon real and personal property. All these levies combined have created one of the most long-standing forms of indirect taxation, since all are included in the carfare charged.

Such levies against public transportation systems should be subjected to careful review and remedial action. Charging "all the traffic will bear" may have been justified in the days of the traction barons. It is not justified today when many companies are attempting to render adequate public service against odds and when visual proof is offered to the old truism that taxation of a public utility is impossible; the patron pays either in increased rates or inferior service.

ANY city which expects to hold its own should immediately repeal all discriminatory taxes on street railways and should move toward elimination of special maintenance of way charges which these companies now are expected to bear.

In the larger cities particularly, another medium of transport frequently is available, and commonly is ignored: suburban service of the Class I railroads. Fundamentally the same problems must be solved by any utility, be it water supply, passenger transportation, gas, electricity, or streets and highways. Transmission is one part of the problem, but the real expense and difficulty always arise in distribution. By way of illustration, it became popular in the early days of the Federal power program to criticize the utilities because of the wide spread between wholesale power rates and the price charged the small consumer. An agency of government analyzed the costs, but failed to issue a report: The price was found to be justifiable because of the enormous expense of building and maintaining a distribution system.

Distribution is just as important in the transportation of passengers as in the handling of electricity, fluids, or gas. The utilities depend on high pressure or high voltage to keep down the costs of their transmission systems, but distribution invariably is costly.

THE street railway or bus systems provide an excellent distribution system, but in the larger cities they fall short in the transmission end. At the same time, Class I railroads still furnish the best form of rapid transit service in metropolitan areas, but they fall short on the distribution end. In nearly all the large metropolitan areas there is an opportunity for real urban public transportation through coöperative effort between Class I railroads and the street railway or bus operators, using rails as transmission, and surface transport as distribution from the terminals and as a collection medium from passengers' homes to outlying railroad stations.

Railroad tickets with streetcar or bus coupons attached have been successfully used. They furnish speedy

Method of Travel	*Time in Minutes*	*Two-way Costs per Passenger* *Total*	*Operation*	*Parking*
Rapid Transit	21	$ .20	..	..
Superhighway Ideal	18 plus parking	.41	$ .26	$ .15
Superhighway Probable	23 plus parking	.41	.26	.15

transportation from home to place of business, once more proving the adage set forth in the table on page 143—*Public Transportation Can Solve Urban Traffic Problems: Superhighways Cannot.*

Superhighway planners furnish a transmission system only, conveniently forgetting about the distribution end of the problem.

OBSERVABLE reticence on the part of the public transportation industry in taking an aggressive stand toward retaining its traffic, with attendant uncertainty about the future, may be attributable in some cases to fear of political reprisals. The fields of franchise expiration, of taxes, and of expense engendered by street relocations are very real nightmares in the life of transit operators. A related case is found in the businessmen who repeatedly have said:

> We don't like the city administration. We'd be glad to back any organization which would assist in restoring sanity to planning; but if we give any opposition to those in power, our office buildings and factories will be visited by one city inspector after another, each of whom in turn will decide that our plumbing and electrical installation and our building is unsafe. How long can we stay in business if the city inspector closes us down?

These factors may help to explain the industry's silence on travesties of city plans. If the little businessman can be put out of business by city inspectors, how much more true must it be of a multimillion dollar utility which may become a target for the entire city council? Widespread pessimism over the status of public carriers in the postwar era can be proven groundless by means at hand to the industry. Passenger good will is an intangible asset, yet it is vitally necessary in a period when inadequate public transportation service drives the patron out to the garage whence he takes the family car to work. The automobile is an actual and potential competitor of public transportation, and must be treated as such.

IT is a well-known fact that many of the necessities of life increase in cost with increased size of community. Telephone service and rent are two of the better-known examples, and the per capita investment in city services frequently increases also. The upshot of this well may be that the city dwellers who do not own automobiles cannot afford such a luxury, and in this case the public transportation industry would be doing the public a great disservice if it does not take an aggressive stand toward encroachment into its field by the private automobile.

Indications are that the automobile already is overpopular in the larger cities, where increased use of public transportation facilities would be equally beneficial to the users and the operators. The most jealously selfish stand which the industry may take in keeping its patrons will, at the same time, be the most public spirited, if it prevents the dissipation of billions of dollars in needless superhighways.

Solution of metropolitan traffic problems is to be found in increased use of public carriers, and the surest way to foster such use is to make possible good service at low fares. The appeal of the 5-cent fare is universal, since for some reason, a nickel is held in much lower esteem than any larger amount of money. This is evidenced by the daily sales of 5-cent candy bars, and the number of nickel phone calls made both for business and pleasure. While the New

York standard of subsidy is not recommended, it is believed that in many cases coöperation between the city administration and the public transportation company will make possible the establishment and maintenance of a 5-cent fare, especially for short haul.

THOSE companies which have been modernized on a soundly economic basis, choosing the proper vehicle for existing or reasonably predictable load, have achieved success by recognizing the service as well as the profit motive. Typical among such is the St. Louis Public Service Company which concludes:

> Each type of transit vehicle has its important advantages. The streetcar has about one and one-half times the passenger capacity of our largest single-deck bus. It is thus more effective in moving rush-hour crowds through streets that are often of inadequate width. Because the streetcar will carry more passengers, the cost of owning and running and maintaining the rolling stock is less per passenger with streetcars than with busses. If riding is sufficiently heavy, this saving will more than offset the cost of owning and maintaining tracks. So for light traffic lines the bus is more economical; for heavy traffic lines the streetcar.

In similar vein, the following general public transportation principles and policies are suggested:

> Public transportation falls in three classes, each having its well-defined and proper sphere, and each utilizing its own vehicle.
>
> As a backbone of the transportation system, or primary means, elevated railways, subways, and railroads provide fast, long-haul rides. None of the primary means should be developed unless there is a sufficiently heavy present or potential load density to warrant the capital outlay for elevated structures, subways, or railroad cars.
>
> The secondary means of transportation, using the streetcar as a vehicle, is adaptable to a lower load density than subway, elevated, or railroad, but when the traffic justifies the capital investment it is the least expensive means of mass transportation.
>
> Finally, the tertiary means of transportation, the bus, logically belongs only to those areas where there is not sufficient travel to justify the capital outlay required by the primary and secondary means, and where there is insufficient vehicular traffic to prove a serious hazard, either to the bus or to the motorist.

THE final conclusion published by American Transit Association in its booklet, "Moving the Masses," is:

> The demonstrable economic advantage of collective transportation justifies the conclusion that through the development of such facilities, and through their utilization to a greater extent than at present, a community may most economically achieve needed improvement in traffic conditions.
>
> Compared to the cost to a community of rebuilding itself for automobile travel, the economic advantage is all in favor of whatever public expenditures may be necessary to achieve a really acceptable standard of service on public carriers.

This is recommended to all city planners as the basis of considering traffic improvements.

"WE must make sure that the ownership and control of these [government-owned war] plants come to rest in the hands of those who are interested in their continued, full operation and have hopes of a rejuvenated and even more vigorous America.

"I know of no better way to accomplish this plan than to vest the ownership and control of these government plants in the men and women who have served in our armed forces. These are the people, who, we can be sure, will be interested in maximum production and maximum employment. . . . This would be a revised edition of the homestead acts and of the land provisions of the Reclamation Law. It would amount to giving these 10,000,000 young people shares of stock in the America for which they have risked their lives."

—HAROLD L. ICKES,
Secretary of the Interior.

A Factual Basis for Utility Depreciation Accounting

A suggested method which, declares the author, avoids some of the uncertainties involved in present procedures.

By LUTHER R. NASH

THE purpose of this further elaboration of the much-discussed subject of providing for depreciation of public utility property is to present a method that avoids some of the uncertainties involved in present procedures. An outline of recent developments relating to the subject may provide a useful, preliminary background.

The NARUC Depreciation Committee presented at the 1943 convention of the association a very comprehensive report embodying the results of extended study by members of the committee and other representatives of regulatory agencies. This report was received by the convention and ordered printed but without further action. Subsequently the committee invited representatives of the utilities to present their views on the report at a meeting in New York. This was followed by a similar meeting in Chicago at which members of the regulatory commissions were given opportunity to express their opinions regarding it.

A report of the proceedings in New York was given in the FORTNIGHTLY of March 30, 1944 (page 438), including a summary of a statement of depreciation principles prepared by a special committee of and approved by Edison Electric Institute, and a more extended criticism of the NARUC report by the institute's depreciation committee. No comprehensive report has been made of the closed sessions in Chicago but it is understood that objections were presented to some of the important features of the committee's report. It is assumed that the criticisms offered at these two meetings are being studied by the committee.

An obvious purpose of the NARUC report is to clarify or elaborate the depreciation provisions of the new accounting classifications effective in 1937. These provisions, general in character, do not differ fundamentally

from those contained in the earlier classifications, approved in 1922. Both provide for reserves to take care of retirements of property but the new classifications apply the term depreciation to the procedure and undertake to eliminate the flexibility embodied in the earlier methods which has been the subject of criticism.

THE important NARUC recommendations include the use of service lives as the basis of annual depreciation and the retroactive application of this procedure in determining the reserve to be used as a measure of accrued depreciation although this latter is inconsistent with earlier prescribed accounting methods. In effect, the NARUC committee's program involves an amortization of investment over an assumed period rather than an expression of existing or accruing depreciation. The advocacy of the service life method is supported by an elaborate and extensive mathematical treatment of service life data, applicable to certain classes of property.

The objections presented by Edison Electric Institute at the New York meeting were a renewal and amplification of previously stated views. It was pointed out that service life records covering many years are available for certain items of property but that they apply largely to small units, constituting a minor proportion of total investment. The following items, with their approximate percentages of total investment, are representative of such limitations: customers' meters, 5 per cent; distribution transformers, 5 per cent; poles, 10 per cent. Data for many of these items relate to types or models now obsolete and with life characteristics differing from those of current models, or are based on studies that yield dollar ages rather than property ages, thereby ignoring many radical changes in price levels. Major items of property, many of them of new types, still lack full-life history or have life experience that is too widely variable for reliable use.

AN over-all picture shows that not more than 20 per cent of total investment in electric power properties has service life history available to support accurate estimates of future life for which provision must be made. This percentage corresponds closely with that found in unquestioned surveys as applicable to property retired in the past for physical causes. The balance of 80 per cent or more of the total investment furnishes little reliable data from which service lives can be estimated. No refutation of this contention of limited applicability of service life data is to be found in the NARUC report or elsewhere. The usefulness of such estimates is necessarily limited to their narrow field of dependability.

It also appears that straight-line reserves, recommended in the NARUC report, using conventional estimates of service life, would ultimately reach totals far in excess of the usual authoritative findings of existing depreciation. This inconsistency has been recognized in certain recent rate cases by admitting the need of a "ceiling" on accumulated reserves. In effect, this is an acknowledgment of the vulnerability of the program's basic procedure.

All utility groups represented at the New York conference were united in opposing retroactively created reserves because of their inconsistency with the

prescribed methods under which their actual reserves were created through customer contributions believed to be adequate.

Such, in substance, are the industry objections to the NARUC committee's program. Its proposed depreciation structure may be likened to a house, one corner of which rests on a rock but with quicksand for the balance of its foundation.

ADMITTING that in some cases the procedure under earlier retirement accounting lacked consistency and adequate support, and assuming that the service life method also lacks a sufficiently broad factual basis for general use, the need for developing a logical and practicable solution of the depreciation problem still confronts us. Obviously if our future procedure is to be based on past experience, and no alternative course has been proposed, adequate historical records are needed. The industry believes that its records of reserve size and recurrent additions thereto and deductions therefrom, covering a period of years sufficient to establish reliable averages and trends, offer the most reliable and comprehensive basis for depreciation determinations, and that such historical data should be given more weight than the more limited available service life estimates.

It should be pointed out that any unadjusted application to the future of past experience is subject to error because of changes in operating, economic, or other conditions. This is equally true of service life and reserve size but, as will be shown, the latter can be corrected automatically as changed conditions develop. The use of existing records of reserves usually requires consideration of the property as a whole rather than separate study of its component parts or classes for which complete data are not available. This conforms to the principle that over-all figures are more accurate than those of component parts, errors in which tend to offset each other. It is agreed by all parties that depreciation does not accrue uniformly but that reasonable uniformity in provisions therefor is desirable in the interest, among other things, of accuracy and consistency in cost of service determinations for regulatory purposes.

IN the light of the foregoing review of recent depreciation history it has seemed appropriate to explore the possibilities of the more extended use of

¶ "AN *obvious purpose of the NARUC [Depreciation Committee] report is to clarify or elaborate the depreciation provisions of the new accounting classifications effective in 1937. These provisions, general in character, do not differ fundamentally from those contained in the earlier classifications, approved in 1922. Both provide for reserves to take care of retirements of property but the new classifications apply the term depreciation to the procedure and undertake to eliminate the flexibility embodied in the earlier methods which has been the subject of criticism.*"

existing records of reserve size and the changes therein as the basis of a more logical and specific procedure that would avoid the irregularities and inconsistencies found in some of the older retirement accounting. For further light on this whole subject Edison Electric Institute has collected and made available to the writer records, many of which have not been included in published reports, from a representative group of widely scattered electric power companies. These records cover periods ranging from twenty-five to fifty years. The fixed capital of these companies in 1943 amounted to about one-fifth of the industry's total and, after excluding periods prior to the inauguration of regular provisions for depreciation, the significant experience aggregates 560 company years. The scope of this group was limited by the desire to avoid possible complications arising from operation of other classes of utility service and the effects of growth from the absorption of other large operating units.

In order to make these dollar records comparable they were converted to percentages of fixed capital from which, through the character of the properties studied, inflationary elements were largely excluded. The percentages for each company were weighted over the record years. The resulting figures are exceedingly interesting, particularly in their relation to criticisms of the practices in effect in the early years of the period studied. During the entire period credits were made to retirement or depreciation reserves amounting to about one billion dollars and averaging 2.25 per cent of fixed capital. Charges for retirements amounted to 54.5 per cent of these credits or 1.23 per cent.

THE records of these companies show no years in which the reserve of any company was not sufficient to take care of retirements then made. In fact, average retirements over the years were 9.8 per cent of existing reserves. The year of maximum withdrawals showed charges for the group only one-third of the reserves, and the maximum year for any company left about one-fourth of the reserve intact.

Present reserves are 20 per cent of fixed capital and are 60 per cent higher than their average for the entire 560 years studied. This increase was not due, as is sometimes thought, to marked increases in reserve credits in recent years, but rather to reduced requirements for withdrawals. During the years in which present depreciation accounting methods have been in effect or were under consideration, credits to reserves have been almost exactly the same percentage of fixed capital as in a similar period when retirement accounting was first prescribed. The recent decline in retirements was due partly to priority restrictions and the necessity of retaining every piece of operative equipment in essential war service.

The 1943 retirement percentage was the lowest in more than twenty-five years. It is also apparent that obsolescence and inadequacy are now less prominent than in earlier years, due not only to curtailment of growth but also to a nearer approach to "technical maturity." During the entire 30-year period studied the average annual increase in fixed capital (compounded) was 7.7 per cent; in the most recent twenty years it dropped to 5.5 per cent; in the final ten years it averaged only 2.3 per cent.

Service Life Records

" . . . service life records covering many years are available for certain items of property but . . . they apply largely to small units, constituting a minor proportion of total investment. The following items, with their approximate percentages of total investment, are representative of such limitations: customers' meters, 5 per cent; distribution transformers, 5 per cent; poles, 10 per cent."

THE foregoing composite figures, particularly the unfailing ability to take care of all retirements and to build up reserves to the present average level of 20 per cent, afford no demonstration of negligence on the part of these companies under the varying conditions and requirements of the long period studied. It is believed that they fairly represent the entire industry because of their diversity in geographical location and climate, size, and other pertinent characteristics. As was to be expected, the figures for individual companies show rather wide diversities. Of the companies in the group, the reserves of which now average 20 per cent, about 40 per cent have reserves more than 20 per cent and 5 per cent have reserves less than 10 per cent. For the entire period studied, for which the average reserve was 12.5 per cent, the proportions above 20 per cent and below 5 per cent were approximately reversed. Variations of a similar order are also found in annual credits and charges to the reserves. Some of these are due to property characteristics, including hydroelectric works, transmission systems, extensive underground distribution, radical changes such as from DC to AC, and growth of property or lack of it.

A picture of the depreciation accounting history of the group of companies studied, covering the years 1911 to 1943 inclusive, is shown in the chart on page 156, prepared and made available by Edison Electric Institute. It will be noted that in only one year, during World War I, was there any material reduction in reserve percentage of fixed capital.

OTHER than for certain variations which have only unsupported company policy as the obvious reason, there is a degree of orderliness in the records examined that suggests that reserve size and the credits necessary to maintain it can be defined in mathe-

matical expressions that represent the industry's long experience as to normal depreciation needs. The basic factor in such an expression is reserve charges. In a mature, static property such charges, averaged over an adequate period of years, will represent current retirement needs and a suitable group of them will represent the needed reserve. Where very long-lived elements are involved, such as masonry dams and like structures, "adequate" history of retirements is rarely available and adjustments are necessary.

Where property growth is involved, the usual situation, the annual credits to the reserve must be increased to provide for depreciation of the new units; but, because of such units, the reserve itself will be a smaller percentage of total investment. These two factors, retirement charges and property growth, both averaged over a period of years sufficient to establish trends, preferably fifteen years or more, are the only essentials to the solution of the problem. The record period should periodically be moved forward by dropping out the earliest years and adding more recent ones, thereby providing gradual correction for changes in conditions as frequently as their magnitude warrants. In case of unusual changes, an accelerating correction factor can be applied as will be shown.

THE proposed formula for reserve size is as follows:

Reserve size = Retirement charges x k_1 — Property growth

The members of this formula are all expressed in percentages of fixed capital. The constant k_1 will vary somewhat with the character of the property although this is largely provided for in the retirement factor with which it is associated. If k_1 is given a value of 20, the resulting reserve will be consistent with the recent average practice of the group studied, which practice has yielded steadily increasing reserves. In the case of no growth the reserve percentage would be 20 times the average retirements. Total fixed capital rather than depreciable capital is used because it is more readily available and yields equally consistent results as long as the proportion of nondepreciables remains stable. The property growth factor provides the needed correction without modifying constant.

It is now in order to consider the results of applying such a formula to known conditions. Using the above constant, the average retirement charges of the company group and average growth for the final twenty years of the period studied, the formula yields a reserve of 19.1 per cent (1.23 x 20 — 5.5). If more recent growth is substituted, a larger reserve would be shown if retirement charges remained unchanged. However, there is little doubt that, in the absence of substantial growth, such charges would be materially reduced because the continued "firing" of small units would no longer be economical. If these charges should decline to 1.0 per cent, which is larger than the 1943 average (0.84), and growth is assumed at the most recent 10-year average of 2.3 per cent, the resulting reserve would be 17.7 per cent.

WE have no precise knowledge as to whether or not such a reserve is consistent with existing depreciation of a particular property. We do know that it is the approximate mean between the conventional findings of

minimum depreciation allowed by courts and commissions and maximum claims, rejected by them because they were obviously excessive. We also know that over a long period of years the industry has successfully provided for matured depreciation with reserves far less than those now existing. Furthermore, for any particular property, the facts as to existing depreciation can be surveyed by competent engineers, not merely by "looking at" its components but by a careful study of its history, economic condition, and prospects and other pertinent facts. The applicability of the formula can thus be checked and its constant adjusted if necessary.

To the extent that retirement charges in the past have included "external" causes such as storms, floods, accidents, and government requirements that do not accrue, they are also included in reserves set up under the formula. Therefore, such reserves are greater to that extent than would otherwise be required.

ANY plan of providing for future adequate reserves should take into consideration the changes in physical and economic conditions, already referred to, which are to be expected. Growth and retirements may be very substantially curtailed, at least for a period of years. Youth is yielding to maturity and longevity. For such reasons the use of the formula herein proposed should make due allowance for such curtailments rather than relying wholly on past experience. Such procedure does not invalidate the formula program which, in fact, furnishes a basis for necessary changes more direct and reliable than other methods. For example, the NARUC alternative would require elaborate recomputation of a multitude of service lives of units or classes of property and their combination into percentages of accruing depreciation which ultimately yield a reserve, the propriety of which only the future can disclose.

The relations in the past between property growth and retirements furnish an illuminating guide as to probable future experience, with due regard for the increased durability inherent in present models of most of our facilities. No mathematical processes can wholly or largely supplant the exercise of informed judgment.

AFTER the size of a suitable reserve has been determined by the foregoing formula or other appropriate method, the next step is to fix the periodical credits that will maintain the

¶ "AN *over-all picture shows that not more than 20 per cent of total investment in electric power properties has service life history available to support accurate estimates of future life for which provision must be made. This percentage corresponds closely with that found in unquestioned surveys as applicable to property retired in the past for physical causes. The balance of 80 per cent or more of the total investment furnishes little reliable data from which service lives can be estimated.*"

reserve at that percentage level on an average over a period of years. The building up of a reserve to that level, if it has previously been lower, is a separate step. For the development of this reserve credit procedure the industry as well as the writer is indebted to Samuel Ferguson, president of the Hartford Electric Light Company, who embodied it in his recent book on this subject, "Depreciation Accounting As Applied to Public Utilities."[1] In this book the process is stated in dollar form and illustrated by application to Mr. Ferguson's own company. Its translation into the formula form used herein is a simple matter.

The reserve maintenance or credit formula also has two factors; namely, the reimbursement for average retirement charges and a contribution toward the increase in the reserve required by additions to the property. If the property is mature and without growth or units of unusually long life, the retired units are similar to those awaiting retirement in future years, the reserve is maintained at the desired level because average credits are equal to average charges, and the second factor in the formula becomes inoperative. As in the case of the reserve size formula, the factors are expressed as percentages of fixed capital, averaged over a suitable period of years, as follows:

$$\text{Reserve credits} = \text{Retirements} + \frac{\text{Property growth}}{100} \times \text{Reserve size}$$

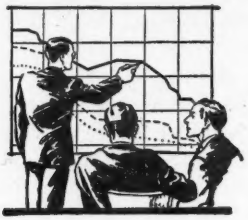
The growth member of the formula adds to the no-growth credits that proportion of the annual growth represented by the reserve percentage. No other factors are needed for the intended purpose in the absence of important changes in basic conditions because of the gradual, automatic correction brought about through the moving average of the record period. Adjustment may be required, particularly in the case of static properties with long-lived units, to compensate for the failure of the average retirement experience to cover all possible kinds of retirements which the future may disclose.

In the event of substantial changes because of unusually large additions or retirements which distort the reserve and make the automatic correction too slow, an additional member may be attached to the formula in the following form:

$$+ (\text{desired reserve} - \text{actual reserve}) \times \frac{1}{k_2}$$

The number of years over which it is desired to spread the correction is represented by k_2, which can be changed from time to time if the rate of correction becomes unsatisfactory. If it is desired to avoid too frequent recomputation of the moving averages in the basic members of the formula, this added member may be used regularly for corrections, at any rate in the absence of radical changes in the property or its operations. In fact, such regular use may add materially to the stability of the reserve, particularly if the record period is long and the change in its average correspondingly slow. Furthermore, this added member may be used at any time to bring an inadequate or excessive reserve into conformity with a newly established standard. The simplicity of the automatic correction, as compared with recomputation of the effects of changes in

[1] Published by Witkowers, Inc., 77 Asylum St., Hartford, $1 postpaid.



Straight-line Reserves

" . . . straight-line reserves, recommended in the NARUC report, using conventional estimates of service life, would ultimately reach totals far in excess of the usual authoritative findings of existing depreciation. This inconsistency has been recognized in certain recent rate cases by admitting the need of a 'ceiling' on accumulated reserves. In effect, this is an acknowledgment of the vulnerability of the program's basic procedure."

many service lives, needs no elaboration.

As the reserve credit formula contains a reserve size factor, for which a formula has previously been stated, it is now possible to express the reserve credit directly in terms of the basic factors, retirement charges and property growth with their appropriate constants. This combined formula, including the accelerating correcting member and with abbreviations for retirements (R), growth (G), and for desired (DR) and actual (AR) reserves, is as follows:

$$\text{Reserve credit} = R + \frac{G}{100} \times (R \times k_1 - G) + (DR - AR) \times \frac{1}{k_2}$$

This formula, containing only known or projected averages of retirement charges, property growth, and existing reserves, together with desired reserve and appropriate constants, will in due time create and maintain annual credit figures which will represent current depreciation as a factor in the cost of service with maximum practicable accuracy. The combined formula could be simplified by combining its like factors but such simplification would obscure the meaning of the components.

The direct usefulness of the combined formula may be illustrated by its application to an assumed typical company. This company over a period of years has withdrawn from its reserve for retirements an average of 1.2 per cent of its fixed capital, the balance in the reserve new being 15 per cent. The annual average growth of the property over the same period was 4 per cent. Both withdrawals and growth were less in this recent period than for the entire available history of the company but are believed to be

more representative of conditions to be encountered in the future. The company now desires to increase its reserve to 18 per cent by equal extra credits spread over a period of twelve years and wishes to know the annual credits to the reserve necessary to meet these requirements. The answer yielded by the combined formula is as follows:

$$\text{Annual credit} = 1.2 + \frac{4}{100}(1.2 \times 20 - 4) + \frac{18 - 15}{12} = 2.25$$

In this solution, k_1 has its normal value of 20 from the reserve size formula. After twelve years, in the absence of other necessary corrections, the final corrective factor would disappear and the needed credit would be reduced to 2 per cent.

This formula is not intended to reflect mathematical exactness. Its factors are, in practice, not wholly distinct because of overlapping between past retirements and provisions for new property arising from a wide range of life expectancy among the many units. Greater accuracy might be secured under certain assumptions of uniformity but with a sacrifice of desirable simplicity in the formula. So long as simple procedure yields suitable results complications may well be avoided.

THE foregoing program, with its formulae for reserve size and necessary credits thereto, is not offered with the thought that it should have general application. However, its factual basis as compared with other methods, its simplicity and automatic adjustment to changing conditions have merit as a guide to companies and regulatory bodies which may now be confused by uncertainties and vulnerable standards and, therefore, seek a more precise method of procedure. The reserve credit formula may be used to advantage when reserve size has already been fixed by some other method.

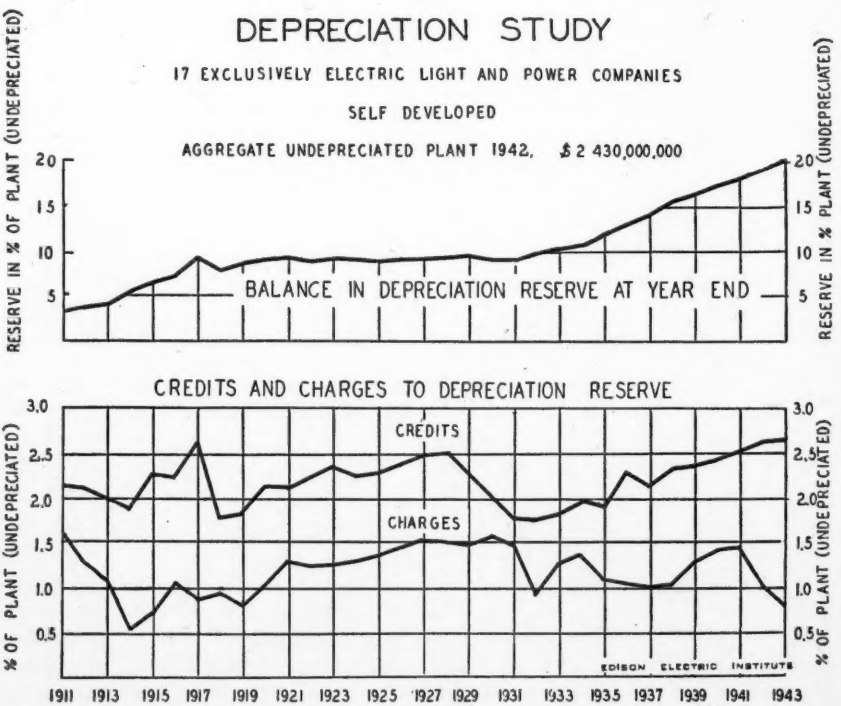
There are, of course, many properties that have systematic and approved methods of depreciation accounting, some of them not conforming to the proposed program. There are also properties with unusual characteristics which the proposed formulae will not fit, at least with their normal constants. Such properties may develop their own constants or follow some other method acceptable to their regulatory authorities. It is, however, assumed that some clearly defined program will be increasingly necessary in the future in view of the present demand from some regulatory agencies for what a recent writer has characterized as "ritualistic mechanics."

IT may be objected that the proposed program is too rigid and that greater flexibility is needed, such as is afforded by the zone plan of reserves within which no corrections in credits are required but which call for increases or decreases if the reserve falls below or rises above the zone limits. Such plans have been prescribed by several commissions and are in successful operation. It is pointed out that, if such a plan is under consideration, its limits should be fixed in some logical manner. If a zone width of a certain per cent of fixed capital is desired, its central point might be fixed by the formula. Examination of the components of annual depreciation or reserve credits shows that reserve size is usually a minor factor and that its exact determination is of less importance than the recurrent charges against it, at

any rate in cost of service surveys which are apparently the subject of present regulatory emphasis.

The question of the deduction of reserves, whether or not determined in accordance with the proposed formula, in fixing a rate base has assumed increasing significance in recent years. We are finding that war restrictions have prevented any large-scale new construction and that only a part of current credits to reserves can be used for such purposes. It is also probable that this condition will continue into the postwar years when curtailed industrial production may leave much electric generating capacity idle. In the meantime depreciation funds will also be idle in part or invested elsewhere. If so invested, it is the obligation of the company custodians to see that safety is assured and to accept the interest earnings that such security affords.

If the full reserve is deducted in a rate case, the company loses the difference between interest earned on safe outside investments and the higher fair return rate thereon. Depreciation funds are not returned to investors as is sometimes erroneously assumed but must be retained by the company until needed for their intended purpose. The same problem exists in the case of a static property such as a fully developed hydro project.



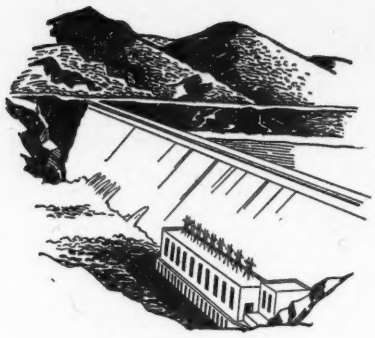
Clearly such excess depreciation funds should not be invested in equities with income equal to a fair return because of the known risks of such investments. In fact, some commissions require that such investments be made in government or other securities of trust grade. Any regulations applicable to such investments should also apply, for consistency, to all fund investments, including those in the utility's own property.

The simplest way of handling the whole problem of reserve disposition is to use an undepreciated investment as the rate base, fix an interest rate applicable to the reserve, whatever its size and wherever it is invested, by agreement with the commission, and deduct the resultant earnings from the computed total reserve credit. The balance is the current depreciation, chargeable to customers as a part of the total cost of service. The larger the reserve the greater the interest component and the smaller the customers' balance. On the other hand, the larger the reserve of a growing property the greater the credit needed to provide for the growth component. Computations show that for normal growth as experienced in the past the resultant customer component is not substantially affected by reserve size, and liberal reserves impose a negligible added burden.

THIS procedure, while having some of the characteristics of the sinking-fund method, differs from it in not requiring the fixing of a definite period over which the accumulation is to be spread and in avoiding the complications incident to any necessary changes in that period. It may be noted that the reserves normally created under the proposed formula are not substantially different from those accumulated under conventional sinking-fund practice, prescribed by a number of regulatory commissions, which requires an undepreciated rate base. In effect, the interest method here outlined embodies maximum simplicity and full recognition of the interests of all parties.

Summarizing the program outlined herein, it is intended to promote greater coöperation between utility and commission in fixing the size of an adequate reserve and in defining a plan for its creation and maintenance. All of this procedure should be continued in effect after approval until changes are authorized by the commission to meet changed conditions, the character and effect of which should clearly be established. Emphasis is placed on size of reserve rather than the recurrent credits thereto because it offers the broadest factual basis, with far greater accuracy than can be secured by the reverse process of starting with reserve credits based on service life estimates, and reaching a reserve size unrestricted other than by periodical revision of these estimates and recalculation of future credits.

NO attempt has been made by the author to adapt similar formulae to classes of utilities other than electric power companies. The general character of the depreciation requirements of such other classes is not fundamentally different and it may be that the only important change in the procedure would be in working out appropriate constants, based, as in the case of electric properties, on the recorded experience of representative companies.



The Power Controversy In Quebec Province

Since value of the property is one of the questions of Montreal Light, Heat and Power Consolidated plant, the legislature, says the author, is being supplied with copies of the decision of the United States Supreme Court in the Hope Natural Gas Case, to show that the value of the property, if taken by the government, would be measured by cost.

By A. E. PERKS

THE time-honored problem of government *versus* private ownership of public utilities is very much to the fore in the Province of Quebec, Canada, where the government is making a brave show of expropriating all the big electrical generating and distributing companies and operating them "for the public benefit." The immediate battle is going on over the Montreal Light, Heat and Power Consolidated, the unit the government has chosen as first to be absorbed. The Prime Minister, Honorable Adélard Godbout, has definitely announced his intention of bringing in legislation at the legislature now sitting, to empower the government to expropriate the electrical facilities and assets of that company.

Montreal Light, Heat and Power Consolidated is frequently spoken of as the company that has the highest degree of operating efficiency in North America, and the lowest rating in public relations.

Its total assets (exclusive of its interest in Beauharnois Light, Heat and Power, which is not at issue) are capitalized by the company at $130,000,000, of which $115,000,000 is its estimate of the electrical part of its capital. The balance mainly represents its investment and its gas distribution equipment, and its 50 per cent interest in the Montreal Coke and Manufacturing Company, the company from which it buys coal gas for distribution.

The Public Services Board, a body created by the Province some years

ago, to which all problems concerning public utilities are referred, has declared that the company's electrical assets are worth only $43,000,000. That estimate, however, was reached for rate-fixing purposes, primarily.

Lest that should become too complicated, let me explain that, on orders from the government, and following legislation passed in the provincial parliament, the Public Services Board started in 1939 to make an inventory of the company's electrical assets. This was made jointly by a representative of the board and one of the company. The latter was Francis Haberley, a rather well-known American utility appraiser.

On the basis of this joint inventory, the board then proceeded to assess the value of the property and arrived at the figure of $43,000,000. They then, toward the end of last year, sent the company notice that it must appear before them on a specified date, prepared to show cause why its capitalization, as far as electricity is concerned, should not be assessed at that figure, and their rates per kilowatt hour or per horsepower reduced so as to give them a fair return on the lower figure.

Mr. Haberley was hastily recalled to Montreal by the company, and he, with a galaxy of local engineering talent, has been showing cause ever since.

MEANWHILE, however, the rate hearing had not gone very far, when the Prime Minister and several members of the provincial cabinet gave notice, by newspaper interviews and public speeches, of their intention of taking over the electrical production and distribution industry in general, beginning with the Montreal Light, Heat and Power Consolidated.

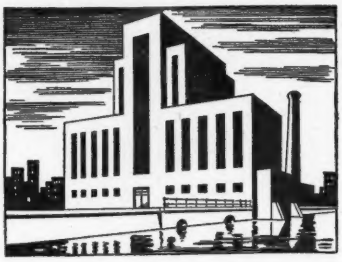
Now, the business world is puzzled; and still more puzzled are the thousands of customer-shareholders who acquired stock in the company years ago. Many of them bought in the halcyon days of 1928-29. They are puzzled as to how much of the money they sank in Montreal Light, Heat and Power stock they will get back after the expropriation. Some of them paid as much as $50 a share. The stock sells around $20 now.

The business world is puzzled over many aspects of the project. Some years ago, after a good deal of ballyhoo, the provincial legislature passed legislation empowering the government to take over the Beauharnois Light, Heat and Power Company, a half-million horsepower development originally intended to tie in with the St. Lawrence river deep waterway project. They passed the legislation, won an election, and since then nothing has been done about taking the company over.

The government has to go to the people in an election this year again, and many people are wondering. . . .

THERE is a section of the population of this Province who would be called isolationists if they lived in the U.S., and they disagree with the present Quebec government's wholehearted coöperation in the war effort—something like McCormack feels about the Washington government.

That group has always been very articulate also in its denunciation of trusts and monopolies, and most particularly the "electricity trust." There are many who wonder whether the Montreal Light, Heat and Power Consolidated is not a sacrificial victim to



Montreal Light, Heat and Power Consolidated

"MONTREAL Light, Heat and Power Consolidated is frequently spoken of as the company that has the highest degree of operating efficiency in North America, and the lowest rating in public relations. Its total assets (exclusive of its interest in Beauharnois Light, Heat and Power, which is not at issue) are capitalized by the company at $130,000,000, of which $115,000,000 is its estimate of the electrical part of its capital."

be offered in appeasement to this angry isolationist-antitrust group, in the hope of retaining their votes next spring or next fall as the case may be. If so, it is quite possible that like Isaac of old, and like the Beauharnois of not so long ago, it may suffice to lead the victim up the mountain and tie him on the altar. The final blow may never have to be struck.

The company, however, is concentrating its efforts on the question of price. It appears, judging by the indications of ministerial speakers, as if the government intended taking the $43,000,000 estimate of the Public Services Board as an accurate figure for expropriation purposes. But the company protests that this figure has been established on a basis of cost price less depreciation, which may be all right for fixing rates, but not as a gauge of expropriation value.

As soon as the Hope Natural Gas judgment came out in the United States (Supreme Court judgment) the provincial government of Quebec had copies of it multigraphed and distributed to all members of the legislature. As this judgment confirmed a decision of a lower court, based on a value established by cost price less depreciation, the company and its friends concluded that it further confirmed their fear that the government intends expropriating on a cost less depreciation basis.

To this, company's leading legal counsel has replied by circulating copies of a letter to the Prime Minister, in which he points out that the Hope Natural Gas Case was one for the fixing of rates, a much different matter from that of expropriating a whole company. Further, he points out that the Supreme Court did not ratify or

approve the cost less depreciation system of appraisal. That court simply ruled that the rates arrived at seemed fair, and this being so it did not matter very much what means were used to arrive at them.

Simultaneously with this apparent intention of expropriating on stringent terms, however, government speakers have assured shareholders of the company that they will be given "fair treatment." Much may depend on what the government of the Province understands by "fair treatment."

THUS the matter stands today. The legislation is anxiously awaited. In the meantime, there are three main questions puzzling everybody: One—is the government really going to expropriate or is it only shaking another bogey man to frighten the widows and orphans and pick up a raft of antitrust votes? Two — if they do, will they insist on the $43,000,000 appraisal of their own Public Services Board, or arbitrate the price further? After expropriation, will they reduce rates, due to saving of income and other taxes, or will they increase rates, due to politics, patronage, and payroll padding? Will they give the prompt and efficient service the private company gives, or will the lights, when they go off, stay off until the foreman comes home from Mass and gets round to thinking about it?

And third, if the expropriation does come off, will the Montreal Light, Heat and Power Consolidated, left with something between $43,000,000 and $115,000,000 of cash and a big, efficient, and going gas distribution business, with gas pipes in practically every street and lane of the city, go ahead and give the government electrical business a magnificient run for its money in open competition?

THE government will have a monopoly for house and street lighting. But, for cooking, heating, and industrial power, the gas company can give them a good fight. They already have hundreds of customers using gas for the heating of their homes; and in this province, where temperatures go to 30° and even 40° below zero, heating of houses and office buildings is an important problem. In that field, electricity has not tried to compete as yet.

Furthermore, the gas-producing company has found markets since the war for many by-products that formerly went down the sewer. After the war they will undoubtedly strive to keep those markets, and find more and more uses for the by-products of gas manufacture, thereby cutting down the cost of the gas to a point where one is justified in wondering whether it will not become more economical than electricity for everything but lighting.

The company owns about half the stock in the gas-producing company. The other half is understood to be held by the Capper Company. And behind the Capper Company, if I am trustworthily informed, stand the Mellon interests. Which gives them at least a fighting chance of making of the gas industry, privately owned, a deadly competitor of the, thus far still hypothetical, government-owned electrical industry.

OUT OF THE MAIL BAG

Defending Original Cost

I AM amazed at what seems to me to be fallacies in the very positive assertions made in the leading article in the PUBLIC UTILITIES FORTNIGHTLY of June 22nd, titled "Fallacies of the Original Cost Theory." This article fails to differentiate between those costs which may be recognized as proper costs, but which should not be part of the rate base, and those costs which should continue to be set up in a rate base and on which the public should continue to pay interest. The article itself contains the answer to its own fallacies when it quotes from the instructions regarding the handling of amounts entered in Account No. 100.5, Electric Plant Acquisition Account, as follows:

> The amounts recorded in this account with respect to each property account acquisition shall be depreciated, amortized, or otherwise disposed of, as the commission may approve of or otherwise direct.

Throughout the article the statement is made that costs in excess of the original cost are regarded as imprudent and are thrown out and must be taken out of surplus or the investors' interests. Yet the very instructions regarding this account show that on analysis of the individual entries, such costs may be depreciated or amortized out of earnings which will return the capital to the investors, but will not continue it as some investment on which investors are entitled to a return into perpetuity.

On page 797 the article says:

> . . . Continuous enterprise cost, in order to be true cost under this concept, does not consist merely of the cost of successful ventures; it must also include the cost of all unsuccessful ventures from the inception of the industry.

UNSUCCESSFUL ventures entered into in good faith and in promotion of an industry on behalf of the public are true *"costs,"* but they are not continuing investments. There is a difference between a return of such investment through amortization, and the continuation of such investment in a rate base, neither of which, properly provided for, is unfair to the investor. The author apparently does not recognize that the purpose of the segregation of the accounts is to establish a "rate base" which will be the basis of determining fair and equitable rates with full recognition of prudent investments. There may be obligations of the past that it would be unfair not to recognize. Such recognition could be (1) by the discharge of the obligation through amortization, or (2) by pyramiding such obligations over continuing years in the base for establishing rates for present service. The author recognizes only the second method of recognition which is manifestly unfair to the ratepayer, and fails to consider the first method of recognition which is not unfair to either the investor or the ratepayer.

A good example can be cited in the national gas industry where there are gas wells that have ceased to produce. No one would question but that through amortizations, depreciations, or depletion, whatever one wants to call it, investors are entitled to get their money back, but one certainly would be entitled to question the right to pyramid depleted gas wells in a rate base throughout a continuous number of years.

On page 796 it is stated that the cost of fixed capital represents a trusteeship. There is no inconsistency in the account system as set up since the trusteeship can be discharged through depreciation, amortization, or otherwise, as may be shown to be fair in an analysis of the particular entry.

On page 797 it is stated that investors must be compensated for all detriments suffered. Certainly justice does not demand that they be compensated by continuing to carry the costs in a rate base. The inference is that if he is not compensated in this manner he is not compensated at all, which is not the fact. He does not lose his investment. It is returned to him and he can reinvest it elsewhere or in plant of the same company presently useful.

On page 799 it is stated that Account 100.5 regards all entries

> as an imprudent expenditure for an improper asset, excluding these costs from the rate base and requiring that the present owner write them off against surplus or the investor's equity.

It is true that they are excluded from the

rate base, but it certainly is not true that they are necessarily regarded as an "imprudent expenditure for an improper asset" or that the present owner must write them off against surplus or the investor's equity. They are simply regarded as what they are, *i.e.*, not a proper part of the present rate base. There is provision in the accounting for handling them in a fair manner.

On the same page the author says that the

> so-called excess represents actual cost of a value that was in existence at the date of acquisition, has existed since that date, and is in existence now, unless by edict it is destroyed.

The reduction in the rate base of the amount of money paid is not necessarily a destruction of value to the investor. Part of it may be returned to him and his claim for a return upon that amount is therefore discharged, but, to the extent that it was an arm's-length dealing, he certainly is compensated for it through depreciation and amortization, although he is not entitled to pyramid investments that are no longer a part of present service.

On the same page the article says:

> . . . His purchase price recognized that value which existed at that time.

That may be true and it may not be true. If it is true his capital is returned to him. There have been many incidents in all rate cases in the past ten or fifteen years to show that many purchase prices did not represent value, and where agreements were not reached at arm's length. In such incidents the write-off, of course, is against surplus. It appears that the real trouble with which this article deals may arise from a difference of opinion of such a nature, rather than from the regulations and instructions themselves. There are many examples where dispositions have been made in a very fair way. It cannot be said that it is unfair simply because the commission does not allow these costs to continue to pile up in the rate base.

On page 800 the statement is made that the TVA paid $78,600,000 for property which on a depreciated original cost basis was worth $60,000,000 and that "there was an imprudent and improper expenditure of $18,600,000 which should be written off as an immediate loss to the investor." It isn't necessarily true that the $18,600,000 was an imprudent and improper payment. It is not necessarily true that it should be written off as a loss to the investor. The only purpose of the rate base is to set up the total on which present and future rates shall be paid. In this case, if it were to be handled as such accounts are handled in a private company, the $18,600,000 might be ordered to be amortized out of rates over the next few years which would return the capital to the investor, after which he could have no complaint.

Although at the start of the article the instructions in regard to Account No. 100.5 are quoted in the article itself, the next few pages immediately ignore these instructions and positively assert that these amounts are a loss to the investor and are taken out of surplus. Many of the examples quoted are of merit only if one has adopted that point of view which at the beginning of the article is shown not to be the case.

It seems to me that the fallacy of thought in this article is that no differentiation is made between what should be retained as capital upon which present and future earnings shall be allowed, and what shall be discharged as a reasonable and proper obligation, but which are no longer a proper part of a base upon which to determine rates.

—Edgar Dow Gilman,
Director, Department of Public Utilities, City of Cincinnati.

Test for Economy

They are telling an invasion story with a telephone angle. It seems that a soldier in a Highland regiment, upon being given a preinvasion furlough, decided to wire a marriage proposal to his sweetheart in Scotland suggesting that she give her answer by calling him on the post exchange telephone. All afternoon Sandy hung around the PX and finally a Yank soldier started to tease him.

"I'd think twice," said the Yank, "before I'd marry a girl who kept me waiting so long for an answer."

"Na, na, ye mus' na joodge hasty, Yankee lad," replied Sandy. "The lass for me is the lass who waits for the night rates."

Wire and Wireless Communication

THE communications division of the Office of War Utilities has issued a new revision of the WPB telephone Limitation Order U-2. One provision of the new order attempts to spread the available facilities for new telephone installations more equitably by authorizing a priority for certain classes of subscribers, in addition to those already listed as "Schedule A" essential subscribers. The two new classes are (1) residence service for the wife and small children of a member of the armed forces, and residence service for honorably discharged members of the armed forces who seek reconnection of former service ("Schedule C"), and (2) residence service in cases of sickness, where operating companies must obtain physicians' certificates on suggested forms ("Schedule B"). It is provided that if service is granted where facilities are limited, such service will be terminated within thirty days after the end of the illness.

Another amendment of U-2 codifies existing appeals policy and removes direct restrictions on exchange line plant and drop and block wire. The amendment which affects line plant is not an invitation to substantial line construction activity. It is designed to add flexibility to existing line facilities with a minor additional use of critical material. The limitations on construction in Order U-3 still prohibit construction in which the cost for material obtained with a rating or allotment number is in excess of $2,500. Furthermore, the restrictions on additions of exchange central office equipment and replacement of central office, PBX equipment, and station apparatus remain in effect.

This amendment puts producers of substantial quantities of food in Schedule A and revokes a provision which formerly permitted certain minor additions to provide service for these producers.

* * * *

As of mid-July, President Roosevelt had still failed to make any appointment to the Federal Communications Commission to fill the vacancy created by the retirement on July 1st of Commander T. A. M. Craven. Craven joined the Iowa Broadcasting Company as vice president. Although Craven was nominally regarded as a Democrat, it was pointed out that the present composition of the FCC does not make it necessary for his successor to be of that faith.

This is because of the fact that Lieutenant Jett, who was named early this year to fill the vacancy caused by the retirement of George Henry Payne, was an independent who specifically repudiated any affiliation with the Democrats, Republicans, or any other party. Because the Communications Act requires that no more than four members of the FCC shall be of the same political party, President Roosevelt is left with a free choice in filling Craven's post. The

present Chairman Fly and Commissioners Walker and Durr are three avowedly Democratic members, while Commissioners Case and Wakefield are Republicans, with Lieutenant Jett the sole independent.

Possibility was seen, therefore, that the President might make either a "career" appointment or a Republican appointment to avert partisan attack on the FCC during the election campaign and avoid a confirmation fight in the Senate. A combination of both "career" and Republican appointment might be that of Rosel H. Hyde, present assistant general counsel of the FCC in charge of broadcasting. Hyde, who has had considerable experience with the commission, is generally favorably regarded in all quarters, to the extent that his nomination would hardly be challenged in the Senate.

IF, on the other hand, the President should nominate a Democrat or an "outsider" to the FCC (or both), political observers are inclined to believe that the Republicans in Congress would be almost compelled to make some sort of a fight on the confirmation because of the pledge of the Republican party in its 1944 platform to make an issue of the FCC and seek a revision of the Communications Act. For this reason it is widely believed that the President may allow the vacancy left by Commander Craven to go unfilled until after the election.

The capital also echoed with recurrent rumors that Chairman Fly of the FCC would resign either to take another and less controversial post, or return to private law practice. Similar reports have proven erroneous so frequently, however, that there is considerable skepticism on the subject.

* * * *

SAMUEL H. JAFFEE, trial examiner of the National Labor Relations Board, on July 10th proposed six geographic divisions of the Western Union Telegraph Company and the home office in New York city as the appropriate divisions for the purposes of collective bargaining in an election to be held for the company's 60,000 employees. It will be the largest ever supervised by the board.

The American Federation of Labor had sought a system-wide bargaining unit of all employees, with some exceptions, and the company had concurred. The Congress of Industrial Organizations had urged that units be established in 105 districts and divisional cities, but that after the election all the AFL and CIO units be consolidated into two respective units.

In view of the importance of the election, the board decided to submit Mr. Jaffee's recommendations and "proposed" decision to a public hearing on July 25th in Washington so that the parties might argue orally and submit briefs. Usually, the final decision as to the type of unit is made after a single hearing.

The AFL unit involved is the Commercial Telegraphers Union. The CIO union is the American Communications Association.

The trial examiner's decision to recommend seven units for the election was made after he had heard arguments for sixty-four days in which 8,000 pages of testimony and many exhibits were submitted.

In the text of the Jaffee report released by the NLRB, the trial examiner indicated that he was faced with a complex variety of possible unit choices and his task had been "to find the most appropriate unit"; that it was not enough to conclude that a particular proposal had "some merit."

He rejected the AFL and company proposal for a single unit on the ground that the time since the merger of the Western Union and the Postal Telegraph Companies on October 7, 1943, was too recent and conditions were too unsettled and abnormal "to declare now as most appropriate a unit which by its very nature tends to finality."

On the other hand, he rejected the CIO proposal as "improper" because he felt it would result in a geographical "crazy-quilt."

His conclusion was opposed to either of the two "extremes." He favored the following units: the metropolitan, eastern, southern, Gulf, Lakes, and Pacific geographical divisions and the home office in New York city.

* * * *

THE possibility that radio and radiotelephony will become more important media for various station-to-station and point-to-point communication activities after the war has brought fresh emphasis to the topic of antenna construction. The likelihood that the Federal Communications Commission will be obliged to reserve only the very shortest wave lengths of the available radio spectrum (where frequencies are still more or less plentiful) makes this emphasis on antenna inescapable, because the nature of these high frequencies is toward the "video" end of the spectrum where the elevation of both sending and receiving posts is necessary to overcome the visual horizon limitation caused by the earth's curvature—to say nothing of high buildings and other land masses which give the ultra short frequencies a "shadow" effect.

Writing in *The New York Times* an item entitled "To the Rooftops, Gentlemen!" T. R. Kennedy, Jr., discusses the impact of this future planning for communication on ordinary home and business real estate construction. He says that engineers are now adapting the time-honored principle of good reception to the future needs of television when home video outfits in greater New York may be numbered in millions instead of thousands.

Video tests have revealed amazing things never dreamed of by the wireless pioneers. For instance, every rooftop has a well-defined "best" spot for reception from each television station. The best receiving location for WNBT may be 18 inches from that of WABD, or 5 to 15 feet away may be the most favorable spot for WCBW. When this happens, a compromise spot is selected and one antenna is erected for all stations.

OTHER discoveries reveal that television antennas "fight" each other when many are installed on a single roof. What happens is a multitude of image-wave reflections between antennas which add to or detract from the original waves from the sending stations. The result is chaos on the viewing screens — an ethereal Coney island "Hall of Mirrors" that mars the picture. Wave reflections from large buildings in the vicinity of the transmitters and more reflections from broadcast antenna wires, water tanks, walls, buildings, and towers near the point of reception add to the general disturbance, resulting in the destruction of clear images.

Although this problem may not become really serious before the war ends and television production and sales get into high gear, the engineers have an answer for the predicament—a complete all-wave master antenna system installed in each building for simultaneous reception of broadcast programs, short waves, FM, and television. Radio City has one, they point out, why not other buildings?

The antenna, carefully engineered for all-wave reception, would be installed and maintained by trained workmen. All received signals would be fed directly into "untuned amplifiers." All programs on the air within the broad range of the system would be automatically increased in strength and passed on throughout the building by special cables to outlets in each apartment.

Plug in a receiver at the proper outlet, attach the power cord to a convenient lighting socket, and the outfit is ready to operate. No more need to hurry to the roof to tighten up the self-installed receiving wire or disengage it from other wires after summer storms. The all-purpose antenna of tomorrow will be put up like the radio wires of a battleship.

One drawback remains—who will do the job and pay the bill—radio industry, individual property owner, or consumer? Radio engineers call this the most serious bottleneck concerned with urban television. Sets may be made in large numbers, but they cannot be sold in large

numbers for use in thousands of city apartment buildings until some means is provided for wholesale unified reception. The solution, engineers contend, is not the master antenna but who will underwrite the job.

* * * *

THE search for the formula for television cannot even begin until at least two years after the war, says Cecil B. DeMille, Hollywood's fabulous personality, and pioneer in three mediums, silent and sound films and radio.

DeMille recalls the early-day battles over motion picture patents, and predicts similar litigation of at least two years for television.

Films had that same problem in 1912 when he, Sam Goldwyn, and Jesse Lasky, excited by the possibilities of film making, wanted to go into it and replace the cheap shows of the era. Movie moguls of the time told them the public liked films as they were, didn't want anything bigger and better. DeMille said:

> If motion pictures are televised, they won't go so well as they do in theaters. The audience in a theater helps a film immeasurably. If you don't believe it, try looking at a film in a projection room. I've seen the funniest comedies go flat, and the best dramas go corny without an audience.
>
> It's a perilous thing to work with a form that leaves so little challenge to the imagination of the audience. There was never such dialogue as that of silent films; never such handsome sets and costumes and actors as on the radio. They have been supplied by the imagination of the audience.

* * * *

SPY hunts rivaling in drama the tracking down of Prohibition era rum runners have been brought to light by the Federal Communications Commission in descriptions of the work of its radio intelligence division, the wartime "policeman" of radio waves.

In throttling attempts at radio communication with the Axis from the United States and Latin American countries, RID has amassed an interest-packed history, although the most exciting achievements cannot be told until after the war. For example, a recent movie short, "Patrolling the Ether," shows an RID sleuth tracking down an illegal transmitter under a gravestone in a cemetery by means of a device small enough to be carried in the palm of his hand—one of many incidents in RID activities that parallels the crime-detecting work of the FBI.

Radio's counterpart of FBI Director J. Edgar Hoover is George E. Sterling, a technician whose experience in radio dates back to 1908, when he set up an amateur station at his home in Peakes island, Maine. Most of Sterling's nineteen months' service in France in World War I were devoted to radio work, and he has been at it ever since, serving with the government since 1923.

* * * *

THE Chicago, Milwaukee, St. Paul & Pacific Railroad this month will inaugurate 2-way telephone communication on moving trains without using radio which requires a definite wave length assignment.

The tests, to be conducted first on the Milwaukee road's divisions between Chicago, Milwaukee, St. Paul, and Minneapolis, utilize electronic principles that involve the rails and the wires paralleling the trackside. Locomotive engineers and conductors may talk with each other as well as with crews on other trains in the vicinity, and with wayside towers and stations.

Known as the "union inductive train communication service," a result of twenty-five years of research by Union Switch & Signal Company, in conjunction with railroads, the telephone does not broadcast the conversations but confines them to the immediate vicinity of the rails over which trains are operating. They do not interfere with any other communication facility.

The inductive system is expected to be used on the Milwaukee road's western divisions, where giant electric engines haul trains, necessitating high-voltage power lines along the right of way, and where many tunnels are located. Both of these factors are obstacles, it is said, to radio operation.

Financial News and Comment

By OWEN ELY

Utility Financing in 1944

DURING the first half of 1944 corporate financing was larger than in the corresponding periods of 1942-3, despite the substantial amount of war bond subscriptions. "New capital" financing was larger than last year, though below the level of the two previous years.

Utility companies have maintained their proportion of total corporate refunding operations fairly well—they did $315,000,000 against the corporate total of $698,000,000—but their proportion of new money financing remained negligible, only $9,000,000 out of a total of $288,000,000. The industry has become in recent years — despite the huge increase in capacity and output — very nearly self-sustaining as far as new capital is concerned.

There has been a decline this year in the proportion of utility deals privately placed. However, two important issues went this route—$68,000,000 Illinois Power Company bonds and notes, and $20,000,000 Peoples Gas Light & Coke Company bonds. Thus in the first half private financing accounted for 27 per cent of utility financing, compared with 12 per cent for the calendar year 1943. Stock financing in the first half of 1944 amounted to less than 10 per cent of all utility financing, but this was an improvement over the first half of 1943.

AMONG the important utility issues in the first half of 1944 were the following:

$45,000,000 Florida P. & L. first 3¼s due 1974
$10,000,000 Florida P. & L. deb. 4⅛s due 1979
$63,000,000 Illinois Power Co. first and coll. 4s due 1973
$16,500,000 Florida Power Corp. first 3⅛s due 1974
$5,000,000 Northern States Power Co. (Minn.) first 2¾s due 1974
$4,300,000 Central Ohio L. & P. first 3⅛s due 1974
$38,000,000 Michigan Consol. Gas first 3⅛s due 1969
$4,000,000 Michigan Consol. Gas 4¼% preferred stock
$18,000,000 Oklahoma Natural Gas Co. first 2¾s due 1961
$9,000,000 Oklahoma Natural Gas Co. 4¼% pref. stock (par $50)
$6,120,000 Houston L. & P. $4 preferred stock (for working capital)
$17,000,000 Louisiana Power & Lt. first 3s due 1974
$5,500,000 Atlantic City Electric 4% preferred stock
$23,000,000 Virginia Elec. & P. first & ref. 3s due 1974
$12,500,000 West Penn Power first 3s due 1974
$9,000,000 New Jersey P. & L. first 3s due 1974
$20,000,000 Peoples Gas L. & C. first and ref. 3s due 1961
$3,000,000 Dallas Railway & Term. first serial bonds due 1945-59 (interest rates ranged from 1½ to 4%)

July financing thus far has been small, due to the war bond drive, now substantially completed. A number of important issues are slated for the balance of the year, while others, on some of which bidding syndicates have been tentatively formed, remain in the indefinite future. Another of the current series of Electric Bond and Share refundings was set for competitive bidding July 25th—$34,500,000 bonds and $7,779,800 preferred New Orleans P.S. Also, $12,000,000 Brooklyn Union Gas debentures due 1979 would be offered by F. S. Moseley & Company (one of the rare negotiated deals); the company is also placing $30,-

000,000 mortgage bonds privately, the two issues replacing the entire present debt. Florida Power Company is expected shortly to sell $4,000,000 preferred stock, to refund 7 per cent preferred, and provide funds for the merger with Georgia Power & Light. Hawaiian Electric Company, Ltd., is also expected to offer $5,000,000 first 3½s of 1964.

During the present month and September a number of utility issues are scheduled. Empire District Electric is expected after Labor Day to offer $10,600,000 first 3½s due 1969 and simultaneously the parent company, Cities Service Power & Light, will divest itself of the 350,000 shares of common stock which it holds. A few days later Ohio Edison proposes to offer $31,000,000 bonds and $18,000,000 preferred stock. Mississippi Power & Light will also issue $15,000,000 new first mortgage bonds, and Laclede Gas Light will sell $19,000,000 mortgage bonds and $3,000,000 serial debentures. A $16,000,000 Capital Transit bond issue may also appear in late September, and $31,000,000 Philadelphia Electric Power refunding is anticipated during September or October. Idaho Power is making an exchange of new 4 per cent preferred stock for the old 6 per cent and 7 per cent preferred, with the unexchanged amount to be offered publicly, probably this month.

GULF STATES UTILITIES is planning to offer a new series of $4.60 preferred stock in exchange to holders of the $6 and $5.50 old stocks, with competitive bids in September to cover any unexchanged balance. In October Metropolitan Edison in expected to issue $38,000,000 bonds and also some preferred stock, and Pennsylvania Edison may do some refunding later in the year.

Other companies which are reported or rumored to have refunding plans under way, without any definite timetable as yet, are the following:

Arkansas Power & Light
Central Maine Power
Connecticut River Power
Dallas Power & Light
Duquesne Light
Indiana General Service
Milwaukee Gas Light
Minneapolis Gas Light
Monongahela West Penn Power
Narragansett Electric
New England Power Association
New York Power & Light
Northern Pennsylvania Power
Ohio Public Service
Philadelphia Electric Company
Potomac Edison
Public Service of Oklahoma
Rochester Gas & Electric
Scranton Electric
Scranton-Spring Brook Water
Texas Electric Service
Texas Power & Light
Toledo Edison
Union Electric of Missouri
United Gas
Western Union
York Railways

For some reason—perhaps because of the difficulties of competitive bidding—holding company sales of common stocks of subsidiaries have slowed down this year. Some less important holdings have been liquidated or privately placed, but no public offering of consequence has occurred since the review of 1943-4 sales in this department (May 25th, pages 702-4). A number of common stock issues will probably appear during the next six to twelve months. As noted above, Empire District Electric shares will be sold in September—the issue will probably involve about $5,000,000 or more. Standard Gas & Electric is expected to present a revised integration plan to the SEC by September 1st, which may involve public offerings of several of the following issues: Pacific Gas and Electric, Mountain States Power, California-Oregon Power, Oklahoma Gas & Electric, Wisconsin Public Service, and Louisville Gas & Electric (Kentucky). The question still has not been cleared up as to whether National Power & Light can sell its holdings of Birmingham Electric and Carolina Power & Light, but even if a distribution is made instead, Electric Bond and Share might sell the substantial blocks which it would receive in the distribution. Commonwealth & Southern has indicated that it might dispose of Southern Indiana Gas & Elec-

tric, and Columbia Gas may sell Dayton Power & Light and Cincinnati Gas & Electric. Electric Power & Light is expected to dispose of Dallas Power & Light, eventually; and Ogden Corporation must liquidate its holdings of Laclede Gas. Engineers Public Service has no plans as yet to dispose of subsidiaries.

Altogether, the utilities and the investment bankers appear to have a busy program ahead of them.

Public versus Private Power in Northwest

REPORTS are now available covering the year 1943 for Puget Sound Power & Light and for the Seattle Department of Lighting. Both are doubtless efficiently operated, but the department has a substantial advantage in that its operations are entirely in the city of Seattle while Puget Sound's include other municipalities and a substantial rural territory (about half the total).

The city and the company both charge the same rates in Seattle, but the company (due to its larger tax load and heavier rural costs of distribution) charges higher rates elsewhere.

In relation to revenues, the city's gross investment was larger than that of the company—about $7.12 of plant for each dollar of revenue, compared with $5 for the company. However, the city has charged off its property more rapidly, and now has a 40 per cent depreciation reserve compared with one of 15 per cent for the company. Taking the net plant cost, the city's amounts to $4.20 for each dollar of revenue, while the company's is $4.27.

While the two companies are not strictly comparable, since the company's operations include rural areas and transit operations, the comparative breakdown of expenditures below may be of interest.

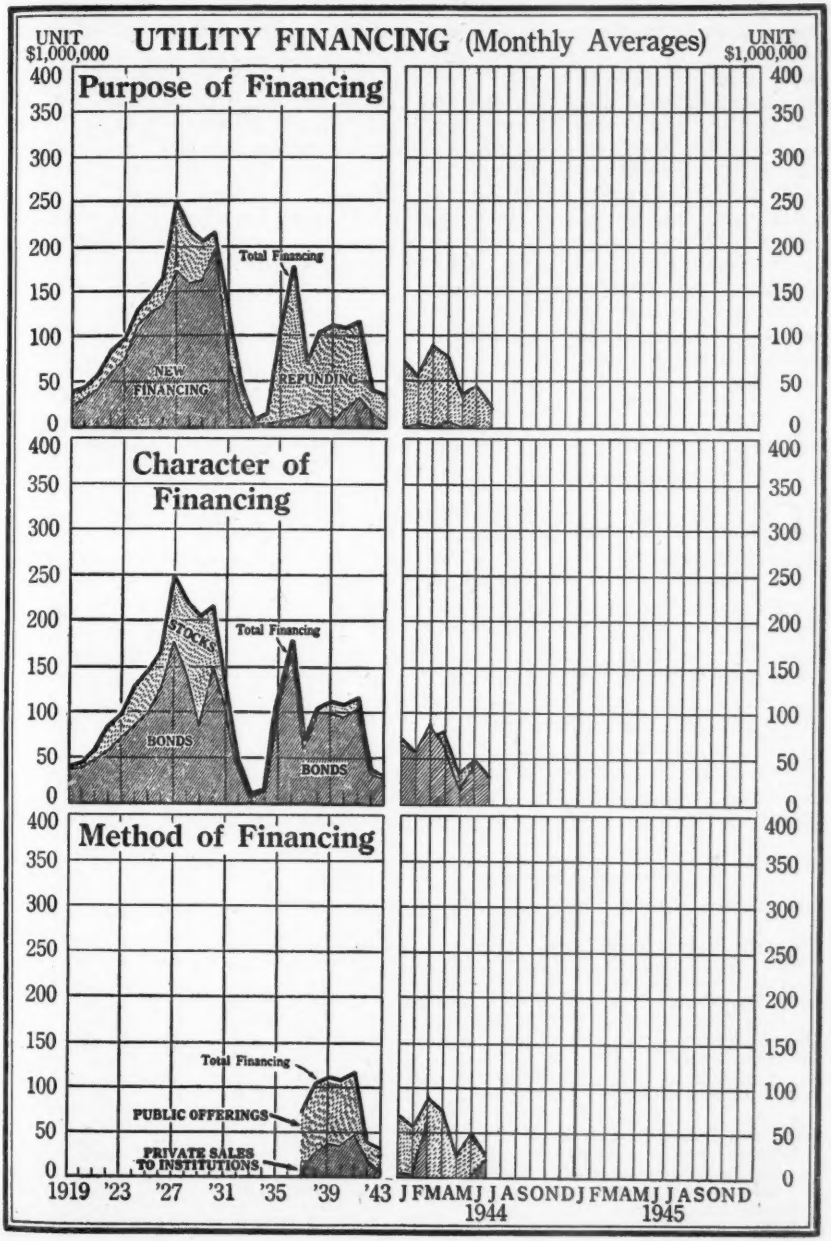
The department of lighting has outstanding $39,398,000 utility bonds, which is approximately equal to the net plant value, against which it pays an average interest rate of about 4.18 per cent. Puget Sound in 1943 paid an average interest rate (including amortization) of 5.1 per cent. This will be reduced in 1944 to around 4.3 per cent or close to that paid by the city. It pays $5 on its prior preference stock, and is currently paying $1.20 on the common stock (12 per cent on the $10 par value), so that, averaging the three items, its capital cost is approximately 6.2 per cent. While the interest rate paid on its bonds by the city is relatively high, it is obvious that it enjoys a substantial advantage in cost of capital over the company.

SEC to Study Illinois Power Claim

THE North American Company integration plan, submitted to the SEC nearly a year ago, has been stymied thus far by the difficulties of determining to what extent it can participate in the liquidation of North American Light & Power. The latter company has a valuable portfolio, including about 40 per cent of the common stock of Illinois Power Company, but the latter has entered claims against Light & Power of

	City Dept.		*Puget Sound*	
	Amount (000)	*% of Rev.*	*Amount (000)*	*% of Rev.*
Total revenues	$9,463	...	$24,690	...
Expenses and power purchased	3,517*	37%	11,338	46%
Depreciation	1,967	21	1,480	6
Fixed charges	1,700	18	2,844	11
Taxes, etc.	494	5	3,629	15
Net income and reserves	1,785	19	5,399	22
	$9,463	100%	$24,690	100%

*Including reserve for deferred maintenance ($280,000).


UNIT $1,000,000
UTILITY FINANCING (Monthly Averages)
UNIT $1,000,000
Purpose of Financing
Total Financing
NEW FINANCING
REFUNDING
Character of Financing
STOCKS
Total Financing
BONDS
BONDS
Method of Financing
Total Financing
PUBLIC OFFERINGS
PRIVATE SALES TO INSTITUTIONS
400
350
300
250
200
150
100
50
0
1919 '23 '27 '31 '35 '39 '43 J F M A M J J A S O N D J F M A M J J A S O N D
1944
1945

over $26,000,000 plus interest (reflecting principally transactions in 1932 and prior years). It has been assumed generally that some compromise of these payments will be worked out, and the fact that the SEC scheduled oral argument late in July seemed to indicate that the matter had begun to crystallize. After these claims have been settled, the important question will remain as to the extent of North American Company's share in the remaining proceeds of liquidation of Light & Power. Here again a compromise may eventually prove necessary because of the tangled litigation which has developed.

Retail Natural Gas Stocks in "Market Comeback"

THE common stocks of the natural gas retail distributing companies suffered marketwise at the time of the U. S. Supreme Court decision in the Hope Natural Gas Case, but, as indicated in the accompanying table, they have now recovered this lost ground and in some cases (as with Oklahoma Natural Gas and El Paso Natural Gas) are well above the 1943 highs. American Light & Traction has doubtless been retarded pricewise by the drastic difficulties in Michigan over rates and taxes, which remain to be ironed out; also the company is in process of dissolution and retains a substantial amount of nonincome-producing cash. Consolidated Natural Gas, which was immediately affected by the Hope decision, has advanced some 30 per cent from the low level. The average yield for the group works out at 6.8 per cent—well above the average for electric power and light stocks—and the average price-earnings ratio is 10.7, which is below that for the electric companies.

Renewed Drought May Affect Earnings

RENEWAL of drought conditions in the East may again affect utility earnings adversely, unless substantial rainfall is received soon. In March and April production of electricity by water power ran ahead of last year, but in May kilowatt-hour production was slightly below 1943 for hydro plants. However, since the over-all increase in output over 1943 was only 5 per cent in May compared with 10 per cent in April, it was possible to cut down slightly on fuel generation despite the drop in hydro output. Latest production figures for the week ended July 10th, showed a gain of only .5 over last year compared with 5.3 per cent in the previous week, but this was probably due to heavier observance of the July 4th holiday.

COMPARISON OF NATURAL GAS RETAIL COMPANY STOCKS

	Where Traded	*Price About*	*Share 12 Mos.*	*Earnings Amount*	*Price-Earn. Ratio*	*Indicated Div. Rate*	*Yield About*	*Approx. 1944*	*Range 1943*
Oklahoma Natural Gas ..	C	25¾		$2.95*	8.6	$1.40	5.5%	26 -19	20 -17
Consol. Natural Gas	S	31	Mar. 31	3.30	9.4	2.00**	6.5	31 -24	—
National Fuel Gas	C	12¼	Dec. 31	.86	14.6	1.00	8.0	12¼-11½	12 - 8½
Lone Star Gas	C	9⅜	Mar. 31	.83	11.3	.60	6.4	9½- 8	9½- 6¼
El Paso Natural Gas ...	S	33¾	May 31	3.71	9.1	2.40	7.1	34 -28	32 -23
Pac. Lighting	S	46	Mar. 31	3.66	12.6	3.00	6.5	46 -40	45 -33
So. Natural Gas	S	15¼	Mar. 31	1.81	8.4	1.25#	8.2	15½-13	15 -11
No. Natural Gas	O	32	Mar. 31	3.37	9.5	2.00	6.3	—	—
Amer. Light & Trac.	C	17	Mar. 31	1.31	13.0	1.20	7.1	19 -16	20 -13

C-Curb. S-Exchange. O-Overcounter.

*Based on *pro forma* income account twelve months ended November 30, 1943, reflecting new bond and preferred stock refunding. Actual earnings for twelve months ended April 30, 1944, were $2.82 (reflecting higher interest and preferred dividends). Price earnings ratio using latter figure is 9.1.

**Possibility of extra dividend.

Includes probable extra dividend.

INTERIM EARNINGS REPORTS

	End of Period	12-month Period Last	Prev.	Inc. %	3-month Period Last	Prev.	Inc. %
Electric-gas Holding Companies							
American Gas & Elec. *Consol.*	May	$2.24	$2.10	7%	..	..	..
American Power & Lt. (pfd.) *Consol.*	May	8.32	8.05	4	$1.98	$2.02	D2%
American Water Works *Consol.*	Mar.	.54	.75	D28	..	..	..
Parent Co.	Mar.	.12	.15	D20	..	..	..
Columbia G. & E. *Consol.*	Mar.	.30	.45	D33	.25	.32	D22
Com. & Southern (pfd.) *Consol.*	May	7.97	8.26	D3	..	..	..
Elec. Bond & Share (pfd.) *Parent Co.*	Dec.	4.55	4.26	7	..	..	..
Elec. Pr. & Lt. (1st pfd.) *Consol.*	Dec.	8.23	10.69	D23	.59	3.93	D85
Eng. Pub. Service *Consol.*	Apr.	1.79	1.25	44	..	..	..
Federal Lt. & Trac. *Consol.*	Mar.	1.74	1.64	6	.45	.56	D20
Parent Co.	Dec.	1.70	1.43	19	..	..	..
L. I. Lighting (pfd.) *Parent Co.*	Mar.	4.36(c)	4.84(c)	D10	..	..	..
Middle West Corp. *Consol.*	Mar.	.28(d)	.34(d)	D18	..	..	..
Parent Co.	Mar.	.06(d)	.12(d)	D50	..	..	..
Nat. Pr. & Lt. *Consol.*	Dec.	.80	.76	5	.22	.41	D46
Niagara Hudson Power *Consol.*	Mar.	.22	.32	D31	.06	.08	D25
North American Co. *Consol.*	Mar.	1.86	1.71	9	.45	.44	2
Parent Co.	Mar.	1.29	1.24	4	..	..	..
Nor. States Pr. (Del.) (pfd.) *Consol.*	Mar.	5.95	6.03	D1	1.98	2.10	D6
Ogden Corp. *Parent Co.*	Dec.	.20	.16	25	..	..	..
Public Ser. Corp. of N. J. *Consol.*	Mar.	...	...	..	.44	.42	4
Std. Gas & Elec. (pr. pfd.) *Consol.*	Mar.	12.88	12.43	4	5.75	4.99	15
United Gas Improvement *Parent Co.*	Mar.	.23	.46	D50	..	..	..
United Lt. & Rys. *Consol.*	Dec.	1.49(b)	2.17	D31	..	..	..
Electric-gas Operating Companies							
Boston Edison	Mar.	2.18	2.11	4	..	..	..
Central Illinois E. & G.	Mar.	1.90	...	..	..	..	..
Commonwealth Edison *Consol.*	Mar.	1.77	1.78	D 1	.46	.45	2
Conn. Lt. & Power	May	2.60	2.60	..	..	..	..
Cons. Edison N. Y. *Consol.*	Mar.	1.68	1.65	2	.73	.74	D1
Parent Co.	Mar.	1.55	1.82	D15	.52	.62	D16
Cons. Gas of Balto. *Consol.*	Mar.	4.33	4.13	5	1.17	1.18	D1
Delaware Power & Light	Mar.	1.03	1.05	2	.28	.25	12
Derby Gas & Electric	Dec.	2.36	2.56	D8	..	..	..
Detroit Edison *Consol.*	May	1.44(a)	1.33	9	..	..	..
Houston Lighting & Power	May	4.92	5.76	D14	..	..	..
Idaho Power	May	2.12	1.89	12	..	..	..
Indianapolis P. & L. *Consol.*	Mar.	2.09	2.16	D3	.77	.55	40
Pacific Gas & Elec. *Consol.*	Mar.	2.29	2.25	2	..	..	..
Philadelphia Electric	Mar.	1.33	1.54	D13	..	..	..
Public Service of Indiana	May	1.92	1.93	..	..	..	..
San Diego Gas & Elec.	Apr.	.95	.92	3	..	..	..
Southern California Edison *Consol.*	Mar.	1.37	1.50	D13	.19	.25	D24
Gas Companies							
Amer. Lt. & Trac. *Consol.*	Mar.	1.31	1.64	D20	..	..	..
Brooklyn Union Gas	Mar.	2.26	1.71	32	.77	.79	D2
Consolidated Natural Gas	Mar.	3.30	...	..	1.61	..	..
El Paso Natural Gas *Consol.*	May	3.71	3.72	..	..	..	..
Lone Star Gas *Consol.*	Mar.	.83	.74	12	.77	.71	9
Oklahoma Natural Gas	Apr.	2.82	3.26	D13	..	..	..
Pacific Lighting *Consol.*	Mar.	3.66	3.28	12	..	..	..
Peoples Gas Lt. & Coke *Consol.*	Mar.	5.20	6.45	D19	1.52	1.94	D21
Southern Natural Gas *Consol.*	Mar.	1.81	1.81	...	...	...	...
United Gas Corp. (1st pfd.) *Consol.*	Feb.	16.97	17.16	D2	5.21	5.95	D12
Washington Gas Light	Apr.	2.02	2.07	D2	..	..	..

D—Deficit or decrease. (a) No provision made for liability under Detroit municipal tax (in litigation) which might reduce earnings substantially. (b) Assuming dissolution plan of United Light & Power is consummated (appealed to Supreme Court). (c) After income appropriations for amortization. (d) Three months ended March 31st.

What Others Think

Subcommittee Recommends Reappointment of Olds

A FAVORABLE recommendation on the confirmation of Leland Olds as a member of the Federal Power Commission for a second 5-year term will be made by the Senate Interstate Commerce subcommittee to the full committee. The subcommittee so decided after a 3-day hearing in June. It divided strictly on party lines. Acting Chairman James M. Tunnell (Democrat, Delaware) and Senator Edwin C. Johnson (Democrat, Colorado) voted for confirmation. Senator Tunnell also cast the proxy of Senator Wagner (Democrat, New York), chairman of the committee, for Mr. Olds. Senator Wagner, attending the monetary conference at Bretton Woods, New Hampshire, did not hear any of the evidence. Senator Moore (Republican, Oklahoma), who instituted the investigation before the subcommittee, cast his vote against Mr. Olds and also the proxy of Senator Hawkes (Republican, New Jersey), who was in attendance part of the time.

A thumbnail sketch of the proceedings before the subcommittee appeared in the weekly letter of *PUR Executive Information Service* of July 14th, as follows:

> Testimony at the Senate hearing on Olds was largely irrelevant. Much of it had to do with the question of whether there was anything improper in the granting by FPC of a certificate to a group led by the President's former son-in-law to construct a natural gas pipe line. The evidence failed to establish any personal connection between this case and Leland Olds. Disinterested observers doubted whether the evidence established very much at all—even on its own merits. Two state commission chairmen, Hill of Arkansas and Peterson of Wisconsin, appeared as individuals to criticize FPC encroachment upon state regulatory rights. But here again, the criticism seemed to lie more against the commission as a whole than Olds personally. Charges concerning Olds' radical record seemed to make the most impression on the committeemen, but the evidence was not strong enough to swing the verdict against Olds. On the whole, however, the testimony may well prove useful, as a foundation, for persuading Congress to take up proposed legislation clarifying FPC activities.

It is expected that the full committee will approve the recommendation of the subcommittee and report the confirmation favorably to the Senate; and it is possible that Senator Bridges (Republican, New Hampshire) will elaborate upon previous attacks on Mr. Olds and Senator Moore may desire to interpret the evidence for the Senate. In any event, Mr. Olds, whose term expired June 22nd, probably will be off the job at least until after Labor day, since it is not expected that a quorum of the Senate will be present before that time to act upon the reappointment. There is also a possibility that the approaching election may prompt the full committee to withhold a recommendation for confirmation because of political damage which may result if a fight on the floor is precipitated.

SINCE much of the testimony involved the activities of the Federal Power Commission as a whole, the record of the hearing may be used as a basis for persuading Congress to act favorably on legislation more strictly defining the limits distinguishing intrastate from interstate jurisdiction. Identical bills to that effect, approved by the National Association of Railroad and Utilities Commissioners, in convention in Chicago last fall, are now in the hopper of both houses. They are the outgrowth of FPC's decisions in the Hartford Electric Case and the Jersey Central Case, both sustained by the U. S. Supreme Court. These cases brought sharp criticism from

many state commissions on the ground that FPC was invading states' rights.

There were three main issues before the subcommittee: (1) the question of whether there was anything improper in granting a certificate to the Tennessee Gas & Transmission Company to construct a 1,200-mile natural gas pipe line from south Texas into West Virginia to serve the Appalachian area; (2) the question of whether the Federal Power Commission, and Mr. Olds in particular, was seeking to usurp the jurisdiction of state commissions over purely intrastate utility regulatory matters; (3) whether Mr. Olds' philosophy labeled him as opposed to the democratic form of government and in favor of public ownership, rather than private ownership.

CHAIRMAN A. B. Hill of the Arkansas commission and Chairman R. W. Peterson of the Wisconsin commission both opposed Mr. Olds on the grounds that as a member of the commission he was seeking to take intrastate jurisdiction over rates. Chairman Hill further alluded to Mr. Olds' philosophy as disqualifying him, and Chairman Peterson contended also that FPC was seeking to go beyond its authority in controlling the waters of Wisconsin streams. A representative of the Hope Natural Gas Company contended that FPC had acted arbitrarily in not granting Hope its day in court in connection with construction of the Texas-to-West Virginia line before awarding the certificate to Tennessee Gas & Transmission.

Lieutenant Colonel Curtis B. Dall, who headed the Tennessee Company until its stock was disposed of to a Chicago firm simultaneously with granting of the certificate, denied emphatically that he had any influence at the White House because he was a former son-in-law of the President—or that he would exercise it if he had it. He insisted that the entire transaction was legitimate and that FPC acted in the public interest in granting the certificate.

Thomas J. McGrath, a Washington, D. C., attorney who represented various interests including coal people, charged FPC with virtually ignoring the protestations of his clients that construction of the line was unnecessary and that any shortage of fuel in the Appalachian area could be taken care of by the use of coal in various forms. He was particularly bitter about the commission's refusal to allow him to cross-examine witnesses who contended the line was necessary to prevent a shortage of gas this fall. He said that the attitude of the commission appeared to be simply one of tolerance of the protestants. He said his clients were not interested in either Tennessee or Hope, but they simply didn't want the line built and they didn't feel they had been given an opportunity fully to present their case.

IN his own defense, Mr. Olds insisted that the Federal Power Commission was interested in coöperation with state commissions in regulatory matters to the fullest extent possible and submitted for the record letters from a number of state commissions commending FPC for contributions it had made to them. He denied that he was a Communist, as intimated in various quarters, although he admitted that he had written in 1920 for the Federated Press, a press association which rendered service to *The Daily Worker*, a Communist organ. He also admitted membership in the American Labor party in 1937. He said that he believed that the work of the Federal Power Commission in fact had served to put private utilities on a sounder footing and thereby left them less susceptible to the attacks of public ownership groups or groups opposed to all forms of private enterprise.

Mr. Olds said he believed that FPC had done a great deal to restore the confidence of the people in regulated private enterprise. Chairman Hill had charged Olds with making some statements at a convention of the National Rural Electric Coöperative Association (NRECA) in St. Louis in January, 1943, which indicated that he favored displacing private enterprise with the coöperative movement. In reply to this, Olds said he thought the growth of the coöperatives

was healthy to a certain point, and said studies of coöperative movements in Sweden, Denmark, and other European countries had revealed that private enterprise itself recognized it had been taught social responsibility by the coöperatives and that therefore their contribution was beneficial.

Elaborating on his views, he said in all of its work the FPC had tried to help make the democratic system work; that his was not a philosophy of public ownership, but one of helpful guidance in preserving the American traditions. He pointed out that even the power policy of Congress was not all for private or all for public ownership and that the Federal Power Act is a symbol of developing Federal power policy.

Alluding to his service on the New York Power Authority, he said its theory was to develop power publicly and have it distributed by private companies as cheaply as possible. He said in the case of Bonneville, if he had had control, he would have favored more private sale than under the present policy.

ACTING Chairman Basil Manly of the FPC indirectly came to the defense of Olds in the granting of the Tennessee certificate, which was a unanimous decision of the commission, when he said the Hope Natural Gas Company actually never intervened in the case and never expressed any interest in obtaining a certificate until after the commission had completed its hearing on the Tennessee application and decided to grant it the certificate. He said that he was never sure just what Hope's position was during all of the discussions on the Tennessee application.

Senator Moore, near the close of the hearing, said he based his objections to Mr. Olds on two grounds: (1) that he was opposed to private enterprise; (2) that he wanted to supplant state authority. He said that in addition to the objections voiced by Hill and Peterson, information had been brought to him from representatives of many state commissions indicating their opposition to Olds but fearing to make them public because of possible reprisals which FPC might administer. Senator Moore concluded with the statement, "I don't think some of your views are conducive to good administration."

—C. A. E.

A Critique of FPC Accounting Policies

IN the June issue of *The Journal of Accountancy,* under the title "Accounting Policies of the Federal Power Commission," Professor William A. Paton of the University of Michigan seriously challenges implications involved in certain elements of the system of accounts prescribed for electric utilities by the Federal Power Commission —and generally accepted by the state public service commissions. He questions the interpretation of this system and its purposes by the chief of the FPC Bureau of Accounts in the latter's recent testimony before the Arkansas Department of Public Utilities, involving the Arkansas Power & Light Company.

Professor Paton says that the accounting profession generally is growing uneasy over the increasing tendency of regulatory commissions (led by the FPC and generally concurred in by the Securities and Exchange Commission) to use accounting classifications and rules as the major means of securing complete financial control and promoting a particular theory of rate determination. He points at signs of an awakened interest of the profession in the action of the American Institute of Accountants in filing an *amicus curiae* brief in the Northwestern Electric Case, and also refers to a recent book by George O. May, dean of the profession in America.

PATON declares that the most distinctive and unusual feature of the FPC accounting policies is the distinction made

"SH-H-ISH IS THE LOUSIEST FLOOR SHOW I EVER SAW"

between "original cost" of a property when first devoted to public service and the cost thereof to the accounting company. He admits that this required distinction of itself does not constitute any violation of the general accounting principles that accounts should be charged with actual cost to the buyer. But he questions the usefulness of this distinction. Does it promote more effective administration of resources, more intelligible presentation of financial data—or is it an artificial classification which does no good and might, aside from adding to clerical burden, even lead to obscuring essential information and stimulating "unsound management and questionable policies regarding regulation"? Paton adds:

... As a general proposition any such scheme falls of its own weight. The emphasis throughout accounting is on actual cost to the entity for which the accounts are being kept. Certainly no one would suggest as a broad rule of accounting that the party incurring a cost in the form of a service, commodity, or other factor must somehow ascertain cost to the vendor, or the first of a series of vendors. A fantastic situation, in view of the purposes of accounting, would result if this were attempted, especially where the purchase price to the present owner were less than the cost to the first or original owner. The buyer keeps accounts primarily for the purpose of recording his costs, and of tracing subsequent effects and relationships associated with his activities. He is not interested in earlier accumulations of cost data by predecessor owners. In fact the asset he acquires is not the same asset as that held by the immediate vendor or other earlier owner, despite the approximate identity of physical elements. A crate of apples in the hands of an Idaho fruit grower,

for example, is not the same asset as is represented by the identical apples in a mound in a fruit stand in New York city; changes in location and ownership have resulted in a new resource, merchandise in the hands of the dealer, and it would be confusing in the extreme were the dealer to attempt to show cost to the Idaho grower (if he could ascertain such cost) in his accounts.

It is conceded that for income tax purposes in connection with assets acquired by gift, it may be necessary to record cost to the immediate or original donor, but it does not follow that any such procedure would be desirable for accounting purposes. Looking directly at the utility situation, Paton takes for an example a purchase by A of a distribution system from B at a cash cost of $100,000. If A separates his total cost into two accounts—one an earlier cost to B and the other the difference between B's cost and A's cost—the writer contends that the usefulness of accounts is impaired for various purposes such as depreciation, control of repair, insurance, etc. It is necessary to pull separated portions of the cost together for any administrative conclusion regarding the actual cost of the property.

PATON disputes the FPC chief accountant's implication that such "original cost" concept has long been advocated by the profession, or that it serves any "managerial purpose," or that it furnishes "the only practical basis for distribution" over total original cost into detailed or primary plant accounts. He says the "appraisal approach" rejected by the FPC staff "has always been used as a means of allocation by private parties and government agencies such as the Bureau of Internal Revenue," and it is always "total actual cost" and not "original cost" which is classified. The fact that the total cost of mixed aggregate of utility property has often in bygone years either not been classified or inadequately classified does not alter the critical view of Mr. Paton.

Nor is he moved by the fact, freely conceded, that numerous cases have occurred in the utility field as elsewhere, in which the contract price of a property as measured by the nominal amounts of securities issued as the consideration exceeded the total actual cost on a cash or equivalent basis. He concedes that nominal price is not a valid measure of the cost of the property and that a restatement of cost on a cash basis is desirable. But this situation, he says, affords no grounds for substituting "original cost" for bona fide actual cash cost to the present owner when it comes to the question of classifying the actual cash cost.

He says flatly that the "original cost" concept "represents an effort—thinly veiled as a matter of accounting classification—to establish 'original cost' (with a deduction for accrued depreciation) as the decisive factor in rate determinations." He regards this as essentially a confusion of two distinct questions: (1) validation of cost, (2) classification of cost.

Mr. Paton describes in some detail FPC Account 100.5, so-called "Acquisition Adjustments," in which is placed the amount of the difference between the cost to the accounting utility and the "original cost." He analyzes the chief accountant's testimony on the function and purpose of this account and concludes that it is "mere camouflage, designed to avoid an obvious break with the most dominant rule of accounting." The chief accountant, in Mr. Paton's view, purposefully progresses from a statement that Account 100.5 follows a portion of the total account of cost of such plant elements as generators, boilers, etc., to a more cavalier treatment that "in most cases I do not believe it necessary or practicable to make a determination of the nature of 100.5 amounts."

THE final stage of the FPC chief accountant's cynicism is his statement that 100.5 amounts "usually represent the cost of intangibles." This is to suggest the dubious nature of intangibles in the utility field and hints of fictitious increases in assets. Professor Paton says:

Here is a plain path running from the supposedly innocent classification of total property cost directly to the goal of elimina-

tion of all investment in excess of "original cost." On the other hand, it must be recognized that the FPC system of accounts as such does not *require* arbitrary treatment of "acquisition adjustments." The door to such treatment is left ajar by the system, but there is nothing in the language of the prescribed accounts which compels the commission to push the door open and use it.

The author wonders, however, in the light of practical experience with FPC tendencies, whether it is intended, "by the back door of special accounting rules, to make it possible or impracticable for utility property to change hands."

As to Account 107, so-called "Electric Plant Adjustments," Paton differs with the FPC accounting policies, first, in connection with the so-called "write-up" (which he thinks the commission is inclined to dispose of too arbitrarily), and, secondly, with more emphasis in connection with the use of this account to eliminate bygone profits changing hands between affiliated utilities. Paton condemns as unsound and unrecognizable accounting practice any such procedure and denied that there is any accounting authority for the same.

He expresses the belief that the FPC chief accountant, on the basis of the latter's own testimony, cannot conceive of a transaction between associated companies being on a fair commercial basis and that "even if he could conceive of such a thing he would still insist that transfers between associates at fair market value were improper." Other bases of Professor Paton's disagreement with FPC accounting policies, too detailed to warrant digest, include "consolidated statements," "rate base considerations," the "rôle of accounting," "regulation and risk," "depreciation."

In his general conclusions Professor Paton points out that although the FPC system opens the door to inequitable treatment, there is nothing to prevent a proper treatment of the investor, aside from the inconvenience, by dealing with portions of actual cost charged to 100.5 on their merits precisely as costs charged to 100.1 are treated. He admits that the tendency of the FPC to stress the accounting mechanism of control need not of itself give the accounting profession anxiety. It is when this tendency goes so far as to crystallize into the position that "all that is required to settle a rate case is to turn to the accounts for a ready-made answer it is necessary to point out that accounting as it has thus far developed has important limitations."

The author concludes:

> . . . Just why is it necessary or desirable to spend so much time and energy probing into transactions occurring from twenty to fifty years ago, and attempting to whittle down—to the vanishing point in many cases—costs which were actually incurred and were recorded in accordance with accepted accounting standards? The only obvious result of such whittling is the paring down of stock equities in the utility field—equities which have already shrunk tremendously. Investors in the common stocks of utility enterprises have lost their coats and shirts, and one wonders why it is considered necessary to take their trousers, too.

Professor Paton asks finally, in view of the fact that if utility rates are about the only prices that have not advanced in recent years, and that the danger of much more serious inflation is around the corner, whether it would not be reasonable to permit utility investors generally to retain such equities as can be justified on the basis of current earning power.

Independent Survey of Utility Finance

For several years—since the impact of the Holding Company Act began to make itself felt on the public utility industry—there has been a definite need for various studies involving the financial statistics of utilities under the Holding Company Act. This need has been admirably filled by the studies which have been conducted and published from time to time by the staff of the Securities and Exchange Commission. Until recently much of this statistical staff work was

	Operating Subsidiaries of Registered Holding Companies Only					*This Report*
	1938	*1939*	*1940*	*1941*	*1942*	*1943*
Times fund. debt int. earned	2.48	2.67	2.92	2.87	2.87	3.10
Times chgs. & pfd. div. earned	1.52	1.60	1.72	1.70	1.70	1.86
Return on common stock	8.32	9.57	10.14	9.78	9.55	9.51
Average interest rate %	4.40	4.23	4.13	4.00	3.96	3.71
Average pfd. div. rate %	6.04	6.05	5.95	5.85	5.84	5.66
Per cent f. d. of net property	54.47	54.17	51.69	51.70	51.61	50.48
Per cent deprec. reserve of property	10.05	10.85	12.71	13.64	14.98	17.22
Per cent taxes of operating revenue	13.03	13.44	15.18	18.19	21.30	22.58

largely the product of C. A. Turner.

It will be of interest, therefore, to those whose business or financial concern requires them to work with such studies to learn that Mr. Turner is now engaged in private practice and turning out the same type of work for private subscription.

The point of interest is the fact that in addition to the publications which we reasonably expect will continue to be issued by the SEC staff, there will be available an independent source of parallel information combining variations and original features that should round out and make complete the accurate picture of what financial developments are going on in the over-all public utility field.

Mr. Turner, whose offices are at 208 South La Salle street, Chicago, Illinois, has already published his first work, "Financial Statistics of Public Utilities," which deals with 245 operating utilities for the year 1943. This is probably the first complete report available covering all major operating companies for that year, which includes all companies having assets of $5,000,000 or more, and represents approximately 80 per cent of the total assets of operating companies in the electric and gas industry.

The greatest value of the statistics lies in the unit figures which permit a quick comparison between various companies and the weighted average of all companies. The basic figures from which the unit figures were obtained are also contained in the report.

A general comparison of the totals of this 1943 report with past years is shown above.

It will be noted from the above table that the return on common stocks has been maintained even though the depreciation reserve has been increased from 10.05 per cent to 17.22 per cent and taxes have increased from 13.03 per cent to 22.58 per cent.

The companies studied are listed by name alphabetically with reference to holding company affiliation.

In addition to the financial factors listed in the above table the report gives the following financial information on each of the 245 companies listed: per cent of gross income of capital and surplus; per cent of capital and surplus of property and investments; per cent of depreciation of operating revenue; per cent of depreciation of property; preferred stock dividend arrearage per share.

In another alphabetical list the various classes of securities outstanding, together with plant investment, assets, and reserves, are worked out in terms of dollars.

¶ "ONE *thing is needful, faith in ourselves, faith in the heritage that is ours, faith in those inalienable rights which Jefferson taught us were given to man by the Creator of the universe.*"

—JOSEPH C. O'MAHONEY,
U. S. Senator from Wyoming.

Courtesy, The Detroit News

NO, NO, MOM—IT'S MY REPORT CARD—JUST SIGN IT!

SEC Report Gives Utility Statistics

THE Securities and Exchange Commission recently published a report of its public utilities division entitled "Financial Statistics for Electric and Gas Subsidiaries of Registered Public Utility Holding Companies" for the year 1943. The report included all such operating utility companies having assets of $5,000,000 or more.

The combined assets of the 202 companies in 41 public utility holding company systems aggregated $12,433,088,311, which was approximately 75 per cent of the total consolidated assets of all registered holding company systems. The 202 operating utility companies had combined gross operating revenues for the year 1943 of $2,556,034,307 and gross corporate income of $599,064,534.

Total capitalization outstanding for the

202 companies amounted to $9,473,833,563 and consisted of the following: bonds $4,132,604,445, debentures $163,625,000, notes and miscellaneous debt $223,273,038, preferred stock $1,685,321,230, common stock $2,400,535,089, capital surplus $300,003,468, and earned surplus $568,471,293.

FIGURES for the year ending 1943 showed that the 203 companies had an aggregate depreciation reserve of 17.53 per cent of their combined plant and property accounts. The equivalent ratio in the 1942 report was 14.98 per cent.

Total 1943 revenues including other income were absorbed as follows: operating expenses 41.96 per cent, maintenance 5.10 per cent, depreciation 9.52 per cent, taxes 21.01 per cent, funded debt interest 7.01 per cent, other deductions 1.85 per cent, preferred dividend requirements 3.90 per cent, common dividends paid 6.80 per cent, and balance for surplus 2.85 per cent.

Electrical Appliance Boom Foreseen

THE electrical appliance industry can expect a 40 per cent increase over the best prewar year in sales of all types of appliances in the first twelve months of full production after victory. This was the opinion of James H. Carmine, vice president in charge of merchandising for Philco Corporation, as expressed to a Furniture Club of America gathering in Chicago recently. The problem is not only one of meeting the urgent demands of the public, Mr. Carmine declared, but also of stocking the empty storerooms of distributors and dealers. He added:

> People are going to want every kind of appliance, and will be able to buy them. It is estimated that by the end of 1944 the accumulated savings in the hands of the public in the form of cash, bank deposit, and war bonds will approximate $100,000,000,000. In addition, instalment credit outstanding has been drastically reduced, so that the credit standing of the American people is higher and their borrowing power is far greater than ever before.

He estimated the national volume of consumer durable goods sold in the first postwar year after reconversion is completed will equal $14,500,000, compared with $10,300,000 spent by the American people for these lines in 1941, the peak prewar year. A backlog of demand for radio sets, he estimated, will have reached between 20,000,000 and 25,000,000 by the end of 1944, compared with the record production of 13,000,000 units in 1941. The demand for refrigerators was estimated at 6,000,000, compared with the 1941 output of 3,600,000.

IN addition to refrigerators and radios, the demand will be great for washing machines, vacuum cleaners, frozen food storage chests, irons, toasters, and other items. Regarding television, Mr. Carmine said:

> Every major city in the United States will have a television station just as quickly as transmitter deliveries can be made at the end of the war. It may be possible to produce and sell table model television receivers for as little as $125 after the war, and larger "projection-type" sets may cost up to $400. Television broadcasting facilities today are within reach of 25,000,000 people, provided receivers were available. If, as we expect, 42 more television stations are added to the 9 now in operation, the coverage would expand to 70,000,000.

H. M. Kelley, appliance sales manager of Frigidaire, said distribution will play as important a part as production in postwar reconversion.

John W. Wicht, divisional manager of the General Electric Company and president of the American Washer and Iron Manufacturers Association, forecast a postwar market for 2,500,000 new washers annually for five years.

The March of Events

FPC Reports on Electric Bills

TYPICAL electric bills for residential service in all communities of 2,500 population and more in the United States as of January 1, 1944, are shown in a report issued on July 16th by the Federal Power Commission. Residential bills are shown in the report for 3,765 communities served by 1,239 utilities. Of these communities 823 or 21.9 per cent are served by 803 publicly owned utilities, while 2,942 communities or 78.1 per cent are served by 436 privately owned utilities.

The report shows a wide difference between the lowest and highest residential bills for identical quantities of electric energy among communities in the same population groups. Among the communities of 50,000 population and more the highest percentage of difference is between the bill of $1.70 for Tacoma, Washington, and $6.08 paid in St. Petersburg, Florida, for 100 kilowatt-hours' use. In the 1,000 to 50,000 population group, users of 25 kilowatt-hours in Virginia, Minnesota, pay 63 cents compared to a charge of $2.75 in Dothan, Alabama. The highest percentage of difference (515.6 per cent) among communities of 2,500 to 10,000 population is between Penn Yan, New York, with a bill of 64 cents for 25 kilowatt-hours' use and Nantucket, Massachusetts, with a bill of $3.94 for the same amount of energy.

SEC Welcomes Showdown

THE Securities and Exchange Commission, in a memorandum filed last month with the U. S. Supreme Court, said that it would welcome a legal showdown with the American Power & Light Company and the Electric Power & Light Corporation on the constitutional questions involved in the order of the SEC directing the dissolution of the two subholding companies in the Electric Bond and Share Company system.

The companies have petitioned the court for a writ of certiorari granting a review of the opinion of the first circuit court of appeals in Boston upholding the order of the commission. The circuit court denied applications for rehearing the case on April 18th.

"The existence of petitioners and their relation to the Bond and Share system constituted prime examples of undue complexity and inequitable distribution of voting power flowing from the pyramiding of holding companies," the commission told the Supreme Court. "Termination of existence and dissolution was the obvious remedy called for by the act. It was also a practical way of handling the problems, as the earlier order requiring the dissolution of National Power & Light Company (another subholding company of Bond and Share) had indicated."

The SEC told the court that to remand the case for consideration of the issues raised in the appeal by the petitioners would unduly protract the litigation, and urged that if the court were of the opinion that any of the contentions not passed on by the first circuit court were properly subject to review, "this court should hear such arguments on the merits and decide them without a remand."

State Rule Urged

RETURN to states' rights and to private enterprise in development of water resources, including power, was advocated in a declaration of policy issued last month by the United States Chamber of Commerce on the basis of a national membership referendum.

One of the recommendations is that Congress should regain control of water resources, lost in the past decade to administrative agencies, and that the legislative branch of the government should maintain and perfect its authority over future public works. The chamber of commerce urges that development should be conducted on sound and forward-looking engineering and economic policies, free from politics, and on a nonpartisan basis.

Other recommendations of the chamber of commerce report are:

No project should be undertaken without careful consideration of its relation to other projects and its effect on other lines of endeavor.

All projects should be reëstimated in the light of increased construction costs now and after the war.

The purpose of each project ought to be clarified and declared in advance by assigning them to the Bureau of Reclamation, Flood Control and Navigation, and to the Army Engineers.

Any government sale of products should be at prices sufficient to cover all costs and the same burden of taxes as citizens pay.

Congress should recognize the interests and rights of the states in water utilization and control.

Congress ought to preserve and protect to the fullest possible extent established and potential uses, for all purposes, of the waters of the country's rivers.

Congress should limit the authorization and construction of navigation works and improvements to those which can be operated consistently with the fullest use of the waters for all purposes.

That division of water between states should be made by interstate compact, or through the application of the principle of "equitable apportionment" at the hands of the Supreme Court of the United States.

Congress should not use the Commerce Clause or authority to limit water uses as established by the states.

Every regional authority plan ought to be examined with great care because of serious and obvious social and political problems involved.

All public or private hydro power should participate in regional power pools to realize maximum benefits in combination with other sources of power. On this basis all government by-product power should be sold, as such, at the point of production.

Divestment Plan Submitted

THE Securities and Exchange Commission was asked on July 17th to approve a plan providing for the sale by the Niagara Hudson Power Corporation to the New York Power & Light Corporation of all the outstanding capital stock of the Hudson Valley Fuel Corporation, in exchange for 192,105 shares of the no-par value common stock of New York Power.

New York Power would receive 67,000 shares of the capital stock of Hudson Valley as part of the plan, and subsequently Hudson Valley would be merged into New York Power.

Upon acquisition of the Hudson Valley stock by New York Power, the former company will be merged into the latter pursuant to § 85 of the stock corporation law of the state of New York.

Niagara Hudson told the SEC that the proposed step would eliminate one corporate entity of that holding company system and thereby simplify it. It will also place in the ownership of New York Power the gas manufacturing facilities from which it obtains substantially all its gas for distribution to the public.

Argentina Hits Utility

THE Federal commissioner in the Argentine Province of Corrientes on July 11th issued a decree canceling the municipal concession under which Compania de Electricidad de Corrientes (Corrientes Electricity Company) hitherto operated.

This concern is a subsidiary of the American & Foreign Power Company, which has suffered heavily at the hands of Argentine Federal commissioners since its subsidiaries in the Provinces of Tucuman and Entre Rios were expropriated this year.

The measure against Compania de Electricidad de Corrientes was taken on the grounds that its activities were "contrary to the public interest." This charge was based only on the statement that "it had been found that the existence of this company was purely nominal and that it had no autonomy or freedom of action, being financed, directed, and controlled by a foreign firm situated outside Argentina."

Argentine censorship forbade foreign correspondents to mention the measure against Compania de Electricidad de Corrientes, it was reported.

Arkansas

Would Buy Gas Company

THE state utilities commission recently conferred with a Midwestern businessman who contemplates purchase of properties of the Fort Smith Gas Company. Chairman Marvin Hathcoat said the holding company, which owns the Fort Smith properties, must dispose of them.

D'Arcy Edgar Dunne, Jr., of Wichita, Kansas, and his lawyer, John D. McCall, of Dallas, Texas, conferred with the commission and staff on the capital structure of Fort Smith Gas. Mr. Hathcoat said Mr. Dunne proposed to buy the capital stock for $1,125,000 and an outstanding note for $104,500.

No formal application was made by Mr. Dunne, Mr. Hathcoat said.

Merger Proposed

THE state utilities commission last month took testimony on the application of Empire District Electric Company and three other utilities to merge as the Empire District and for permission to issue securities. Chairman Hathcoat, of the commission, said another hearing would be set to obtain information on value and accounting practices used by the various companies.

Only one of the four companies is an Arkansas concern. It is the Benton County Utilities Corporation, which comprises only a small part of the $25,000,000 assets which would be merged. The other companies are the Ozark Utilities Company and the Lawrence County Water, Light & Coal Company.

California

To Protest Reduced Fare

THE Market Street Railway Company has indicated its intent to ask the state supreme court for a review of its decision upholding a state railroad commission order to reduce fares to 6 cents. (See, also, page 191.)

In a recent statement, Samuel Kahn, president, asserted the fare reduction order was based on an "estimate" of earnings at the 6-cent rate, whereas actual experience shows a loss. Kahn said:

"The railroad commission estimated the company, under a 6-cent fare, would make a reasonable return on its rate base. The supreme court apparently accepted the commission's estimates. The actual results, since March 1st, show that the company, under a 6-cent fare, did not make a reasonable return or any return at all; in fact, it failed to make its operating expenses and interest charges by a substantial margin, which means it operated at a loss.

"We hope the court and the commission will review these facts under a procedure compatible with its power and dignity, for we believe that if they have facts instead of estimates, they will be not only willing but anxious to reach a different conclusion."

Although the commission ordered the fare reduction, it is unlikely to go into effect because the impending merger of the private system with Municipal Railway will be accompanied by a uniform 7-cent fare.

Standee Ban Rescinded

GREYHOUND bus drivers in the San Francisco area resumed hauling standing passengers on July 12th. The drivers voted at a meeting of their union local on July 11th to rescind the ban on standees, imposed June 22nd, and thus cleared the way for the War Labor Board processing of a contract dispute with the company.

Shortly before the union meeting the WLB notified the local it would not consider further contract negotiations until the ban was lifted.

The drivers contended standing passengers hampered proper driving of busses, but the company declared this was "pressure" strategy to force acceptance of the union's demands.

Fare Increase Denied

THE California Street Cable Railway Company was denied an increase in fare from 6 to 7 cents by the state railroad commission recently in a 3-to-2 decision.

The commission held that the company had paid off its indebtedness long ago, has "earned a fair return," is operating obsolete equipment without having attempted to improve it before war made it impossible, is making a 5 per cent return on a $526,000 rate base which probably is too high, and that a higher face probably would make conditions worse.

The majority opinion was submitted by Commissioners Sachse, Havenner, and Clark. Commissioners Rowell and Craemer dissented, declaring the majority opinion was a conclusion which, in effect, held the company was entitled to no earnings.

The higher fare requested, according to the majority opinion, "contrary to the claims and expectations presented to the commission in these proceedings, has not benefited applicants' patrons by improved service, but has been accompanied by reduced and poorer transportation and by greater congestion and increased inconvenience of car riders.'

Indiana

Commission Vacancy Filled

HUGH ABBETT, Oklandon, chief engineer for the state public service commission for the past two years, last month was appointed a member of the commission by Governor Henry F. Schricker.

He succeeded William A. Stuckey, Democratic member, who resigned on July 6th after a brief conference with the governor. It was reported several weeks ago that Mr. Stuckey would not be reappointed because of differences with George N. Beamer, South Bend, commission chairman.

Mr. Stuckey issued a statement following his resignation in which he asserted the functions of the state commission are being superseded by Federal bureaus and reviewed his disagreements with Mr. Beamer in both commission and political affairs.

Mr. Abbett first was appointed to the engineering department of the commission in 1919. In 1934 he became chief engineer for a public utility consultant in New York, and worked in Alabama, Louisiana, and Illinois. He then became associated with the Federal Power Commission in 1938 and four years later was appointed chief engineer of the commission.

Mr. Stuckey's resignation became effective at noon on July 8th.

George M. Barnard, New Castle and Indianapolis, Republican member of the commission, is expected to resign shortly when his appointment to the Interstate Commerce Commission, recommended several weeks ago by President Roosevelt, is approved.

Kentucky

Company Wins Judgment

A JUDGMENT for $60,641 was given to the Kentucky Natural Gas Corporation in its suit against the Owensboro Gas Company, in an opinion last month by U. S. Judge Mac Swinford, of Cynthiana.

The judgment followed several years of controversy between the two firms about gas delivered to Owensboro between August 1, 1937, and January 1, 1941. The Kentucky company notified the Owensboro firm in 1934 that it would terminate its contract July 11th of that year. The Owensboro Company refused to sign the new contract, claiming it was too harsh and continued to pay at the old contract prices.

"With no agreement between the parties as to the amount to be charged and no criterion by which to determine what is a just and fair rate, the court must necessarily resort to legal principles affecting sales and determine from the record the fair and reasonable sum for goods sold and delivered under an implied contract to pay on a *quantum valebat* basis," Judge Swinford said.

The Owensboro Company had contended that expansion by the Kentucky company in Indiana and Illinois was indication of mismanagement. Judge Swinford said the record falls short of showing mismanagement.

"I cannot conclude that the rate charged was excessive or that it was other than fair and reasonable," he stated.

"While it is not a rate case and cannot be determined on principles guiding the decisions in rate cases, the court may look at the general setup and property values of the plaintiff in examining the question of reasonableness of the charges."

Utilities Expected to Pay Out Early

BELIEF of the electric and water plant board of Frankfort that the two utilities will pay for themselves in fifteen years—ten years sooner than was anticipated—was underlined recently with an order to buy $6,000 more of the 1½ per cent revenue bonds issued against the properties when the city bought them August 1, 1943.

The board already has bought $29,000 of the $1,200,000 issue maturing July 1, 1968, and expects to increase such purchases as favorable conditions develop in the open market. Roger Adams, secretary-treasurer of the board, said the city and consumers alike appear to be well pleased with public acquisition of the electric distribution system and waterworks from the Tri-City Utility Company, successor to the Frankfort unit of the Kentucky-Tennessee Light & Power Company.

Michigan

Lighting Project Approved

THE Detroit city council has approved a recommendation by Mayor Jeffries' postwar improvement committee that a public lighting commission project estimated at $200,000 be altered to a $750,000 expansion program.

The original estimate, the committee told the council, "was a rather tentative figure suggested before a study could be made."

"The present system is twenty years old now, and the project, which would tie the 2,300-volt feeders of the lighting commission into a loop system, would give better service, result in fewer breaks in service, and reduce maintenance costs," the committee explained.

The project might take from ten to twenty years to complete and would cover the entire city except the northwestern section, where a modern system now exists.

The council approved the recommendation and ordered the new plan added to the city's postwar program.

Missouri

Court Voids Tax

LESS than four months after it had rendered a diametrically opposite decision, the state supreme court *en banc* last month declared unconstitutional the St. Louis city ordinance levying a 5 per cent tax on gross receipts of the Laclede Power & Light Company.

The ordinance, enacted in May, 1939, was intended to yield the city an estimated $150,000 a year revenue, and to place Laclede Power & Light on the same footing as its larger competitor, Union Electric Company of Missouri, which pays the city a 5 per cent tax on its gross receipts.

An injunction proceeding, filed by the company to prevent collection of the tax, has

been before the courts since January, 1940. The city filed a suit to collect more than $76,000, due from May, 1939, to January, 1940. Circuit Judge David J. Murphy in September, 1941, declared the ordinance unconstitutional, and granted an injunction against the city.

The city appealed to the supreme court, and Division 2 of the court, in July, 1943, declared the ordinance valid. The company appealed to the supreme court *en banc*, and that body, on last March 6th, upheld the ordinance. The company then sought a rehearing before the court *en banc*, which was granted, and as a result of the hearing the court on July 3rd reversed itself, in the opinion written by Judge Laurance M. Hyde, the other members concurring.

The ground on which the court finally held the ordinance unconstitutional was that it was a special enactment, and as such forbidden by the Constitution.

Laclede Power & Light is an affiliate of Laclede Gas Light Company. Laclede Gas now pays a 5 per cent license tax on its gross receipts.

The tax which the city sought to levy on the power company was in the nature of an occupational tax.

Nebraska

Mayor Names Power Group

VERNE HEDGE, former Lincoln mayor, heads a committee of fifty-nine named last month by Mayor Lloyd Marti to assist and advise the Lincoln city council as to the next steps to be taken looking to purchase of the local distribution system of the Consumers Public Power District.

There are fifty men and nine women on the committee of citizens representing the suburbs, labor, retailers, the professions, housewives, business women, industry, the churches, and the university.

The mayor said it was important that the committee start work promptly. Many of the names were suggested by his council colleagues, he said.

Work of the committee will be left to the committee and the mayor will make no attempt to suggest or prophesy what it may or may not do.

It could recommend one of the following steps:

1. That the council make Consumers an offer at a price which is deemed reasonable—even to naming a figure.

2. Condemnation of the distribution system. This could take one of two forms: (a) condemnation after further negotiations and (b) condemnation on the spot in view of the extreme difference in value apparently placed upon the property by the district and value which the council might determine.

3. Extension and expansion of the city's plant—the acquiring of as much business as possible through competition. This applicable to the days when a lessening of the present emergency permits thawing out processes and expansion.

"The city can reduce light rates 25 per cent, saving Lincoln over $11,000,000 during the period in which Consumers Public Power District is paid for," Mayor Marti said.

New Jersey

Railroads to Pay Tax Bills

ATTORNEY General Walter D. Van Riper announced recently at the close of a conference with railroad representatives that the state would receive immediately $15,000,000 of the estimated $60,000,000 owed by a group of railroads to the state in delinquent taxes and interest.

All but two of the delinquent railroad taxpayers also agreed that they would pay promptly their respective shares of the balance of $34,000,000 of principal owed for the tax years 1932 through 1940, Mr. Van Riper said. He added that representatives of the Central Railroad of New Jersey and the New York, Susquehanna & Western Railroad, both in bankruptcy, had informed him that those lines were unable to make payments immediately.

New York

Tax to End Subway Deficits

MAYOR LaGuardia unveiled his "transportation tax" plan last month. Designed to raise an estimated $51,700,000 a year to cover the cost of subway deficits and transit improvements, the proposal calls for a levy on all rent payers and owner-occupants in residential,

business, and commercial buildings, supplemented by a tax on mortgage interest and an impost on all persons employed in the city but living elsewhere.

The plan would be placed before the board of estimate and the city council after the November election, the mayor said, and the 1945 state legislature would be asked to pass an enabling act under which the plan, together with a 10-cent fare proposal, would come before the voters at a special referendum election before July 1, 1945.

As outlined by the mayor, the "transportation tax" plan calls for the following:

A tax of 2 per cent on rents of residential properties, to be paid by the tenants and collected by the landlords in behalf of the city.

A tax of 2 per cent on charges for rooms in hotels and lodging houses, to be paid and collected in similar fashion.

A tax of 2½ per cent on rents of other than residential properties, also to be paid by the tenant and collected by the landlord for payment to the city treasury.

A tax of 2 per cent on owner-occupants, based on rental value of the occupied premises as computed by a formula not disclosed by the mayor, but apparently fixing monthly rental value at 1 per cent of assessed valuation.

A tax of 1 per cent on mortgage interest, to be paid by the person or institution receiving the interest.

A tax of 40 cents a week on all persons working in the city but living elsewhere, to be withheld by employers for payment to the city.

The mayor said that he advanced his rent-tax plan as a means of preserving the nickel fare for a longer period, while imposing a minimum burden on the city's rent payers, 77 per cent of whom pay less than $50 a month for living quarters, according to the most recent Federal census.

The mayor's tax proposal met instant opposition in suburban areas. In the city, leaders of business, taxpayer, civic, and real estate organizations refrained from comment on the plan until they could study it further.

In Jersey City, Mayor Frank Hague announced through a spokesman that he would fight the proposed levy on salaries of workers who commute to New York.

New Regulations Issued

THE state public service commission on July 17th issued new regulations under which all gas utilities in the state henceforth will be required to install gas mains and connections within a public street to a customer's property line at their own expense.

For all extensions installed, a customer will be required to pay only the regular charge for gas service, plus a surcharge of 9 per cent a year on that part of the main extension in excess of 100 feet. Thus, if upon request for service a gas utility has to extend its main to serve a customer's premises and the extension is 150 feet long, the company must pay all of the cost of installation and the customer will be required to pay an annual surcharge of 9 per cent on 50 feet of the line. When the revenue from the extension after a period of two years is more than one-fourth of the cost of the installation the surcharge will cease altogether.

There are some sixty utilities supplying gas service in the state and the practice with respect to extension of gas mains to consumers varies greatly. Some of the more important utilities that will be affected by the new regulations include the Consolidated Edison Company of New York, the Brooklyn Union Gas Company, the Long Island Lighting Company, the Niagara Hudson Power Corporation system, and Associated Gas & Electric Corporation subsidiaries located in New York state.

Many of the companies require customers to pay the cost of all or part of an extension and thereafter the rates for service supplied through the extension include a charge for return and depreciation upon the property for which the customer has paid, according to the commission.

In a memorandum covering the regulations, Milo Maltbie, chairman of the commission, declared the regulatory agency is opposed to this practice and that the effect of the new ruling will be to eliminate this inequity and make the requirement with regard to extensions and service pipe installations uniform for all companies under the jurisdiction of the commission. Similar rules were adopted by the commission in 1940 for waterworks companies.

Presents Merger Proposal

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC., on July 12th transmitted to the state public service commission a petition for approval of a merger of its utility subsidiary companies into it to form a single company. Upon the consummation of the merger, Consolidated Edison Company, now the parent organization, would take over the assets and operations of Brooklyn Edison Company, Inc., New York & Queens Electric Light & Power Company, New York Steam Corporation, Westchester Lighting Company, and Yonkers Electric Light & Power Company, in New York city and Westchester county. The plan does not contemplate the merger of the Consolidated Telegraph & Electrical Subway Company, which owns and operates an electrical duct system in Manhattan and the Bronx.

The petition, signed by Ralph H. Tapscott, president, stated that the company believed such a merger was desirable and in the interest of the consumers and of the public and that it "would bring about a corporate structure which would conform to operating reality."

"Upon such mergers being effected," the petition stated, "the unified systems for the dis-

tribution and sale of electric energy and gas to the public in the city of New York and Westchester county, formerly operated by the Consolidated Company under a corporate structure consisting of a number of separate corporate units, would be directly owned and operated by a single corporation, the Consolidated Company, which would also supply, distribute, and sell directly to the public the steam presently distributed and sold by the Steam Corporation."

The mergers would eliminate such expenses, including taxes, as are due to the continuance of the five companies as separate corporate units with separate books of account and corporate records, as well as intercompany transactions. The termination through the proposed mergers of the separate corporate existence of the several companies proposed to be merged would result in economies in administration and operation from time to time, and such economies would necessarily be reflected in the rates charged for the several utility services supplied by the companies, the petition stated.

Any necessary future financing would be simpler to accomplish on an advantageous basis from time to time after such mergers, according to the petition. "It would then be possible for a general mortgage to be placed on all of the operating utility properties, including those presently owned by the companies proposed to be merged, as well as those owned by the Consolidated Company. Such a mortgage could be a vehicle for future financing for purposes of either additions, extensions, and improvements or of refunding outstanding obligations of the several companies. If the proposed mergers were effective, there would no longer be, as there has been in the past, any occasion or necessity for loans or advances by one of the companies to another or for the guaranty by the Consolidated Company of bonds or debentures of any of the subsidiaries proposed to be merged in order to market such securities advantageously."

The mergers would be brought about under § 85 of the Stock Corporation Law.

Right to Fix Fare Upheld

THE right of the state public service commission to regulate fares charged by franchised bus lines, regardless of any rate fixed in the franchise contract, was asserted recently by Philip Halpern, counsel for the commission.

The issue was raised when the commission denied a motion by the Queens Nassau Transit Lines, Inc., for dismissal of the commission's inquiry into its rates, fares, and charges. Harold Cloutman, counsel for the company, indicated that a court appeal would be taken from the commission's ruling.

Most of the bus franchise contracts awarded by New York city contain a 5-cent fare provision. It is Mr. Halpern's contention that the commission, since 1907, has had power to regulate fares despite contract fare provisions in agreements made since that date.

In the case of the Queens Nassau Transit Lines, Inc., the commission's inquiry was directed toward the reasonableness, under present operating conditions, of a rate reduction.

Pennsylvania

Accepts FEPC Directive

THE Philadelphia Transportation Company indicated last month that it had accepted a directive of the Fair Employment Practices Committee on the hiring and "upgrading" of Negroes as operational employees with the posting of notices in car barns stating that all qualified applicants for employment will be accepted "without regard to the applicant's race, creed, color, or national origin." The notice stated that the new hiring plan has been made retroactive to July 1st, and added that the company would receive applications for transfer to better positions from all qualified employees not on its lists.

The posted notices also set forth that company seniority will rule in filling jobs in higher classifications and that preference will be given to qualified employees in the same department where a vacancy exists.

A company spokesman indicated that the first Negroes to operate streetcars and busses may take up their new work some time in September.

Rates Hit As Exorbitant

THE rates of the Peoples Natural Gas Company were attacked by City Solicitor Anne X. Alpern, of Pittsburgh, at a hearing before the state public utility commission last month. Miss Alpern contended that the rates, approved by the commission February 16, 1944, are "exorbitant."

Her argument was based on a recent decision of the U. S. Supreme Court which drastically reduced the rates charged by the Hope Natural Gas Company, a wholesale supplier of the Peoples Natural Gas Company.

"In many districts," Miss Alpern declared, "the Equitable Gas Company, also serving metropolitan Pittsburgh, charges rates identical with those of the Peoples' pre-1940 rates. Their neighbors across the street who are served by the Peoples Gas Company are paying a much higher rate for identical service.

"By reason of the monopoly which Peoples enjoys, householders who are unfortunate enough to reside within its franchised territory must pay Peoples' exorbitant rates and may not

secure gas from Equitable. Thus they are denied the equal protection of the laws guaranteed under the Constitution."

Miss Alpern said the commission originally had allowed Peoples a net annual return of $1,401,795, but this figure was raised to $2,528,520 by the state commission's latest order.

"Instead of an increase in rates," she declared, "the company should be compelled to reduce its rates below those in effect prior to 1940. This would result in further dollars to the company's customers."

Texas

Plan for Gas Regulation

GOVERNOR Coke Stevenson expressed confidence recently that a plan for regulation of natural gas production in Texas will be presented to the state legislature when it meets next January.

"There will be a plan ready, by the time the legislature meets, to handle the gas situation in Texas," Stevenson said. He declined to discuss for the present the nature of the plan, which he said had not yet been perfected.

The governor's remark came in response to a question concerning the proposal of Sidney A. Swensrud, vice president of Standard Oil Company of Ohio, that the so-called Big-Inch and Little-Inch oil pipe lines from east Texas to the New York-Philadelphia area be converted into gas carriers after the war.

Chairman Beauford H. Jester, of the state railroad commission, said that it should be the objective of the industry, the legislature, and the commission to see that fullest use is made of natural gas and its waste halted since technicians have proved that this resource may ultimately be more valuable than our crude oil reserves.

The direction that additional state regulation of gas will take was said to be a matter of speculation. It was believed probable that some attempt would be made to change the production tax on gas, which now is 5.2 per cent of market value. Two proposals made informally have been for a tax based upon volume of gas rather than upon its market value and for a tax graduated according to the distance the gas is piped from the well to the consumer.

A new step into the regulatory field which the commission may soon undertake is for mandatory pressure maintenance in recycling gas to remove its valuable liquid elements. The remaining dry gas is suitable for fuel and lighting purposes.

Washington

Coach Operators Needed

SHARP curtailment of Seattle's public transportation service unless more than a hundred coach and trolley operators are employed immediately was forecast recently by Lloyd P. Graber, transit system manager.

"The situation is serious," said Graber. "Unless we get some relief—and quickly—Seattle people are going to have to do a lot more walking than they ever figured on."

Already the system's man-power problem has reached a state so acute that service must be curtailed daily on several lines.

Yakima Votes Franchise

UNOFFICIAL returns from Yakima's 29 voting places on July 12th showed that the Pacific Power & Light Company request for a nonexclusive 25-year franchise was approved by a vote of 3,495 to 2,954.

The margin of 541 votes in favor of the proposition, which carried the endorsement of Mayor A. W. Mogren and the city commission, built up steadily as the returns piled in.

The proposition carried in 19 and was rejected in 21 of the city's 40 precincts.

The franchise campaign was one of the most spirited to be conducted in Yakima for many years. Officials pledged that a modern street-lighting system would be installed in the city if the ordinance was approved. Opponents of the measure charged that the proposition was being pushed onto voters and urged that decision be delayed until after the war. They challenged the motives of the supporters of the franchise.

Power Action Rushed

WITH proceeds of a $700,000 bond issue, Clallam County Public Utility District expected to take title to Puget Sound Power & Light Company's property in this county on July 15th, when the proposed form of court decree would be presented to superior court at Port Angeles, according to Paul Coughlin, PUD attorney.

Coughlin said the bonds would be purchased by Ballard-Hassett Company of Des Moines, Iowa, at an average 3.27 per cent interest rate, without awaiting disposition of the company's appeal now pending in the state supreme court from the $600,000 valuation verdict of a jury last December.

The Latest Utility Rulings

Rate Base Limited to Sale Price Offer Is Upheld by Court

An order of the California commission reducing fares on the Market Street Railway Company was affirmed by the supreme court of California. The proceedings and order had been attacked as a deprivation of orderly due process and as a confiscation of property. The primary questions involved related to notice of hearing and adequacy of hearing on the procedural issue and the propriety of a rate base limited to the amount at which the company had offered to sell its property to the city of San Francisco.

The court concluded that the notice of hearing sufficiently advised the company that the reasonableness of rates would be considered and that the company had full opportunity to present evidence on the rate issue.

The commission had rejected the company's book figures of cost and depreciation and selected the offered price as the rate base. It allowed a 6 per cent return, which percentage was not contested.

The court discussed Supreme Court decisions since Smyth *v.* Ames (1898) 169 US 466, culminating in the recent decisions upholding orders of the Federal Power Commission under the Natural Gas Act. It was said that in Federal Power Commission *v.* Hope Nat. Gas Co. (1944) 320 US 591, 51 PUR(NS) 193, the court freed commissions from the necessity of following Smyth *v.* Ames. The company contended that the Federal Power Commission cases were inapplicable because they involved the commodity gas as distinguished from the use of common carrier properties; but, said the court:

> The petitioner does not contend, however, that the rate base theory of public utility valuation is not applicable in the present case. That theory of evaluating public utility property as determinative of the question of confiscation was adopted by the commissions, and assumed by the court to be proper, in the cited cases. It follows that the holdings of the Supreme Court in those cases may be considered in a case involving common carriers. Therefore those cases, particularly the Supreme Court's decision in the Hope Natural Gas Company Case, permits unreasonableness to be shown, not by the method employed to formulate a rate base, but by the fact that the "end result" of the commission's order interferes with the company's successful operation, its financial integrity, its ability to maintain credit and attract capital, and to compensate investors for risks assumed—in short, fails to provide a return sufficient to induce the utility enterprise to "perform completely and efficiently its functions for the public."

The court adhered to the rule that a reviewing court will not disturb findings of a regulatory body unless invasion of constitutional rights is clearly established. The company was charged with the burden of showing that the evidence did not support the commission's finding of value and that the reduced rate was unreasonable and would result in confiscation. That burden is coupled with a strong presumption of the correctness of the findings and conclusions of the commission.

In this case, contrary to the usual situation, the commission was faced with the problem of evaluating the property of a utility which was in direct competition with a municipal utility offering similar service over which the commission had no regulatory power. Prior to the present World War, competition necessitated operation at a loss. The company had not devoted to replacement and repair the amounts charged off on its books for those purposes, and its charges to depreciation reserve were lower than actual annual plant consumption. The

factors which affected the value of the investment, said the court, justified the commission in refusing to adopt as an annual charge to plant consumption, the company's book depreciation reserve or any other hypothetical sum approved by accounting practices. It was concluded that the company had permitted unusual deterioration in view of negotiations for sale to the city started many years ago.

Acceptance of book figures or the amount of outstanding capitalization in order to arrive at present worth, the court continued, would result in a figure inflated so far above fair value as to impede the commission's authorized regulatory effort to restore the company as a useful public servant performing its functions adequately. No arbitrary action, the court held, resulted from rejection of book values and capitalization, refusal to make precise estimates of actual deterioration or of going concern or other values, and acceptance of the company's offer of sale (made in a profitable period) as the best evidence of fair value. There was no denial of due process in rejecting conjectural and unsatisfactory estimates. The court refused to interfere with the commission's findings of fact on the question of probable future operating revenues, expenses, etc.

Findings of inadequacy in the maintenance and service were held to be supported by the evidence, and it was said that the commission is empowered under the statutes in fixing the fare to take into consideration the quality of the facilities and service. *Market Street Railway Co. v. California Railroad Commission.*

Relief from Discriminatory Rates in the Absence of Regulation

THE supreme court of Florida holds that customers of an electric company are entitled to judicial relief from discriminatory charges where there is not legislative provision for regulation of rates. The state Constitution authorizes the legislature to pass laws for the correction of abuses and to prevent unjust discrimination and excessive charges by public utilities. The Constitution also requires that all courts be open so that any person may have a remedy.

The court was of the opinion that in view of the legislature having failed to provide for regulation, customers must have relief in the court. It was said:

> Any other holding would be an admission that the government is powerless to or has failed to provide recourse where a ground for it is alleged.

The court held that it had no power to prescribe a rate to be charged in the future, as this was a legislative prerogative. On the question of requiring restitution for alleged excess charges previously paid, the court did not hold that this could not be done in a proper case but it held that the pleading did not make such a case. There was no sufficient showing as to how long the alleged excess charges had been paid, why relief from them had not been sought sooner, or what the discrimination was predicated on, nor was there sufficient factual basis in other respects to prove and support a decree on this point.

Allegations as to discrimination were held to be sufficient. The court below had dismissed the bill of complaint. The case was remanded for trial on the question of discrimination and on this question the court stated:

> When the question of discrimination has not before been raised against a public service corporation that has been in operation for more than a generation, constantly enlarging and modernizing its plant, distributing dividends and building up a surplus for contingencies to warrant any claim for restitution in the manner sought here requires a much stronger showing than a charge based solely on discrimination. There must be play somewhere for the rule of diligence and when not exercised such claims must be barred.

The rate must in all cases be just and

reasonable, said the court, as measured by correct standards that bear a proper relation to the factors involved in the production. If delegated to a commission or others duly authorized, some standard should be prescribed that will permit a fair return on the cost of the property employed. Such is the criteria the court below must be governed by in reaching its judgment as to the question of discrimination. There would also be involved the comparative cost of service to customers inside and outside the city.

The court noted that the Supreme Court in the Hope Natural Gas Company Case had approved the prudent investment method as a means of determining a rate base. The discussion of reproduction cost and other factors in that case and in the Natural Gas Pipeline Company Case, said the court, might shed some light on the instant case, but those cases were not conclusive because they both had to do with a reasonable charge for natural gas, wherein the criteria for determination are in material respects different. *Cooper et al. v. Tampa Electric Co. 17 So(2d) 785.*

Demand Provisions of Industrial Electric Rates Modified for Peacetime Transition

A PETITION of the Consumers Power Company for authority to modify certain demand provisions of its industrial electric rates, in order to make the transition from war production to peacetime production easier of achievement, was granted by the Michigan commission. While many industrial customers engaged in essential war work were distinctly new industries for manufacturing war products, whose operations after the termination of hostilities would be uncertain, the major portion of the industries served represented manufacturing establishments which existed long before the present war and which after its termination would reconvert to former lines of peacetime activities. Certain customers might discontinue operations and close down entirely. Others would curtail operations, while others would be little affected.

Demand charges in the industrial power rates were based upon the monthly demand in kilovolt amperes attained by the customer and with the additional provision that such demand should not be less than 60 per cent of the highest billing demand of the preceding twelve months. On account of the uncertainties and emergency conditions resulting from the war, it was believed that substantial hardship would result from a strict application of the 60 per cent provision.

The modification provided for suspension of the 60 per cent provision for the period from May 1, 1944, to May 1, 1945, on sixty days' advance notice by customers. At the end of the suspension period these customers will be treated as new customers with service initiated May 1, 1945, and future charges will not be affected by any previous demand incurred. Customers on these rates will also be permitted to cancel their service contracts entirely on sixty days' advance notice. *Re Consumers Power Co. (D-2916).*

Failure to Issue Order within Time Limit Invalidates Denial of Application

UNDER a Wisconsin statute providing that the commission shall make its finding and issue its order on any application within sixty days after completion of the hearing, and that in the event of a failure to do so a petition shall be deemed to be granted, the supreme court of Wisconsin held invalid an order denying an amendment to a common motor carrier certificate. The court ruled that the power

exercised by the commission was legislative and not judicial in character, adding the following statement:

> Being legislative in character, a hearing which satisfies the requirements for a legislative hearing is sufficient, the hearing being in no respect whatever, judicial or quasi judicial. . . .
>
> Unless some care is exercised to preserve the distinction between legislative and judicial power when exercised by administrative bodies, the division of the government into coördinate departments will become meaningless.

The legislative intent was said to be that proceedings were to be concluded within sixty days and, therefore, were summary in character. The time within which the decision was to be made was to be extended only when the applicant agreed in writing to an extension of time. The statute indicated that the legislature intended that the commission should accord an applicant a prompt hearing and issue its order within the time specified. The court concluded that the word "hearing" referred to the time when the commission had concluded the taking of evidence.

When the commission, after a delay of three months, denied the application, the court held further it had no jurisdiction to make the order, since under the terms of the statute the applicant had already received a direct legislative grant in accordance with its application. The making of that grant could not be reviewed by a court for the reason that it was a legislative act done in the exercise of the power granted to the legislature by the Constitution. The commission had no power to set aside the legislative grant. *Gateway City Transfer Co., Inc. v. Public Service Commission et al. 14 NW (2d) 6.*

Gas Quality and Rates Adapted to Diminishing Natural Gas Supply

An unusual arrangement for regulating heating value of gas and applying rates was approved by the Illinois commission in view of uncertainty as to the continuance of a supply of natural gas. The Illinois Power Company, formerly Illinois Iowa Power Company, had been authorized in 1941 to furnish natural gas with a heating value of 1,700 BTU per cubic foot instead of manufactured gas with a heating value of 565 BTU per cubic foot. At the same time the company was authorized to file rates applicable to natural gas service. These rates were upon a therm basis, whereas the rates for manufactured gas were on a cubic foot basis. Later, because of factors beyond company control, the commission in 1943 authorized a change in heating value to 1,650 BTU.

Recently a rapid decline in gas and oil production in the area had taken place, and the gas supply had become inadequate. In order to protect the service, the company constructed temporary facilities for the production of manufactured gas and served this gas, containing approximately 1,600 BTU per cubic foot, in part of its territory. It proposed to construct gas plants equipped to produce manufactured gas containing 1,600 BTU per cubic foot.

In view of this situation it asked authority to change from natural or mixed gas to manufactured gas from time to time, as the available supply of natural gas might warrant, and to bill customers on the rate applicable to the type of gas and heating value content actually furnished. With certain modifications to protect gas-heating customers, the commission approved the plan.

The company is to keep on file present rates for natural gas service and is to file rates for manufactured gas substantially equivalent and no higher than rates now in effect for such gas, but converted from a cubic-foot basis to a therm basis, and with certain reductions below rates proposed by the company and with the addition of a combination rate for residential and commercial space heating.

These rates are to be applied to service in the following manner; namely, when the proportion of natural gas to total gas supplied in the area is 50 per cent or greater, then the natural gas rates shall be applied, but when the proportion of natural gas is less than 50 per cent of the total, then the manufactured gas rates shall apply. *Re Illinois Power Co. (29913).*

Experimental Rates Become Permanent After Long Uninterrupted Usage

THE Indiana commission, in an investigation of passenger rates of Gary Railways, Inc., required the elimination from tariffs of expiration provisions and clauses indicating that fares were experimental where they had been filed and refiled repeatedly over a 13-year period. They had been put into effect by the company as a revenue booster and had been termed experimental and a reduction from the basic fare structure.

The commission, after quoting definitions of the word "experiment," said:

> It would appear to the commission that the "experiment" has long since been concluded. The efficacy of the 5-cent fares undoubtedly, both from the standpoint of the public and respondent, has been proved. It seems utterly ridiculous to say that these fares are experimental or temporary. By long uninterrupted usage respondent has shown their efficacy, reasonableness, practicability, and perhaps their soundness. The 5-cent fares have long since, it would appear, passed into the realm of permanency. This is true, notwithstanding the fact that these so-called experimental rates have been filed at regular intervals, bearing an expiration date, this latter practice being a method of tariff compilation permitted by the commission at the request of respondent.

The company had been charged with discrimination because of its failure and refusal to set up a 5-cent fare in one of the districts on the same basis as that established in a similar business district wherein the 5-cent fare had been charged since 1931, all within the same corporate limits. Possible differences in conditions were noted by the commission, but final action was deferred pending an investigation of the entire rate structure of the company. *City of Gary v. Gary Railways, Inc. (No. 16496).*

Water Company Denied Right to Abandon Service

A PETITION by Casco Castle Company for authority to discontinue water service was denied by the Maine commission where the case was based upon two contentions: (1) that upon due notice to customers a company may lawfully withdraw its property from public use and discontinue its public service at any time it chooses, irrespective of whether its water business is profitable or otherwise; and (2) that it cannot be compelled to make repairs and carry on its business at a loss. This company had previously been ordered to repair or replace its facilities to enable it to render safe and adequate service.

The company was incorporated primarily for the purpose of operating a summer hotel, and among the properties acquired was the water system. This had been operated since 1912.

The Maine statute forbids a public utility to abandon all or any part of its plant necessary or useful in the performance of its duties to the public without approval of the commission. The commission declined to rule on a contention that the law was unconstitutional, as it does not have power to set aside acts of the legislature.

In a review of authorities presented by the company in support of its right

to discontinue, the commission declared that the statement in Munn *v.* Illinois (1877) 94 US 113, 126, that one who devotes his property to public use, though subjected thereby to be controlled by the public, "may withdraw his grant by discontinuing the use" was purely *obiter dictum.* The court was dealing with the constitutional power to regulate a business; discontinuance was not in issue.

Other court decisions were also distinguished, and the conclusion was reached that a company which has devoted its property to a public use, particularly a water company, could not, at least in the face of the statutory prohibition, divest itself of its public character without the consent of the commission so long as such consent is not unreasonably or arbitrarily withheld.

The burden of proof to justify abandonment was said to be upon the company, and the commission ruled that it had not sustained this burden. The fact that a loss was incurred in the one year 1943, said the commission, was not alone sufficient to determine future prospects. Abnormal expenditures had been made in that year, and if they had been spread over a period of years there would have been no loss in any one year. The rule adopted in rate cases that a reasonably long period must be taken rather than the result of operation in a single year, said the commission, is equally applicable in an abandonment case.

The average return on the investment for eleven years was found to be 5.4 per cent, and the average of twelve years, including 1943, was 4.2 per cent. It was said that for a water company so situated as this company, in which the risk to the invested capital was comparatively small, this average return could not be said to be so low as to be confiscatory. *Re Casco Castle Co. (U. No. 1794).*

Reorganization Plan Disapproved

A NEW plan of reorganization for Philadelphia & Western Railway Company, filed with the Federal District Court and with the Pennsylvania commission, was disapproved by the commission as being neither fair nor in the public interest. An earlier plan had been approved which did not provide for distribution of any cash to reorganization creditors, while the later plan provided for distribution to them of $317,190 cash. The commission said that this was adverse to the public interest, and also stated:

> Furthermore, in view of our declaration of policy of June 7, 1943, 50 PUR(NS) 17, in the matter of the abnormal wartime earnings of utilities and the impossibility of their currently doing normal plant maintenance work, because of shortages in materials and man power, we deem it unnecessary to find whether any lesser amount of cash is available for distribution to reorganization creditors. Now, in the midst of the war crisis, is not the time to siphon funds out of P&W's treasury, particularly since the distribution of such funds to reorganization creditors is not essential to a reorganization of P&W. All funds not absolutely needed for current operation should be conserved until after the war . . .

The new plan had been submitted by Philadelphia Suburban Transportation Company, which was a creditor of P&W through the recent purchase of approximately 30 per cent of total bonds outstanding. The commission said that, although this was not determinative of its judgment of the new plan, it might be noted that Philadelphia Suburban Transportation Company became a creditor after approval of the earlier plan and therefore was not a bona fide reorganization creditor. The commission said it knew that in acquiring these bonds it would acquire more than 5 per cent of the voting capital stock. *Re Philadelphia Suburban Transportation Co. (Application Docket No. 62725).*

NOTE.—The cases above referred to, where decided by courts or regulatory commissions, will be published in full or abstracted in *Public Utilities Reports.*

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— F(2d) —
May 16, 1944

PETITIONS *to review and set aside orders of Federal Power Commission reducing rates for natural gas; orders affirmed. For Commission decision, see (1942) 43 PUR(NS) 205. For earlier court decisions relating to investigation, see (1940) 34 PUR(NS) 448, 110 F(2d) 350; (1940) 36 PUR(NS) 46, 113 F(2d) 1010; (1940) 311 US 693, 85 L ed 449, 61 S Ct 76.*

UNITED STATES CIRCUIT COURT OF APPEALS

Corporations, § 1 — Principal place of business.

1. The principal place of business of a corporation is where the actual business of the corporation is conducted or transacted, and this is a question of fact to be determined in each case by taking into consideration such factors as the character of the corporation, its purposes, the kind of business in which it is engaged, and the situs of its operations, p. 8.

Appeal and review, § 13 — Proper Federal circuit — Place of business of corporation — Natural Gas Act.

2. The circuit court of appeals for the circuit in which a corporation has its principal place of business has jurisdiction, under § 19(b) of the Natural Gas Act, 15 USCA § 717r(b), to review orders of the Federal Power Commission reducing rates although the corporation was incorporated under the laws of a state in another circuit and therefore has its legal residence and domicil in that state, p. 8.

Rates, § 13 — Jurisdiction of Federal Power Commission — Natural Gas Act — Consideration of unregulated business.

3. An order of the Federal Power Commission reducing rates for gas transported and sold in interstate commerce is not invalid on the ground that the Commission undertook to exercise unauthorized jurisdiction over the production and gathering properties, facilities, and business of the company, prohibited by § 1(b) of the Natural Gas Act, 15 USCA § 717(b), although the Commission inquired into and considered production and gathering properties in respect to cost, depreciation, operating expenses, and revenues merely in their relation to fixing interstate rates, p. 10.

Constitutional law, § 24 — Impairment of contract.

4. Exertion of the power of Congress in its regulation of interstate commerce is not fettered by preëxisting contracts or arrangements, p. 12.

Rates, § 13.1 — Powers of Federal Power Commission — Effect of contracts.

5. Contracts entered into by natural gas companies and substantially performed prior to the enactment of the Natural Gas Act at a time when neither company was in fact or in law a utility or common carrier, and when each disclaimed privileges and obligations as such, are not a bar to the exercise of powers by the Federal Power Commission to fix rates in such manner as to abrogate prices agreed upon in such contracts, p. 12.

Return, § 16 — Not guaranteed — Reasonable rates.

6. Permissible regulation of rates does not insure that a business shall produce net revenues, and any rate may be decreased which is not the lowest reasonable rate, p. 13.

Return, § 50 — Confiscation — Rate limitation on gas producer — Intercorporate relations.

7. An order reducing rates of a company producing gas and delivering it to a pipe-line company in interstate commerce is not invalid on the ground that it requires the producing company to do the impossible and violates due process, because under a contract between the companies the producer is required to sell gas to the pipe line at cost and there is no possibility of profit accruing to the producing company, where, because of intercorporate relations and stock issues, the producing company in effect shares in the beneficial ownership of the pipe-line company and in its net earnings, p. 13.

Appeal and review, § 28.4 — Conclusiveness of findings — Rate order of Federal Commission.

8. A finding by the Federal Power Commission that a natural gas rate is unreasonable, made after a full hearing, carries with it a presumption of correctness, and the burden rests upon him who attacks it on review for want of substantial evidence to show the absence of such evidence, p. 14.

Appeal and review, § 28.7 — Rate base determination — Federal Power Commission — Cost basis.

9. Orders of the Federal Power Commission reducing natural gas rates are not to be invalidated for failure of the Commission to use present fair value instead of original cost as the rate base unless in its totality the Commission has overstepped the limits of due process, p. 14.

Valuation, § 69.1 — Original cost determination — Payments to affiliates.

10. The difference between the cost of leaseholds to a company acquiring them and the amount which an affiliated company paid for such leaseholds should be excluded from the original cost of property of the latter company as a basis for rate making, p. 16.

Valuation, § 69.1 — Original cost determination — Stock payments to affiliates.

11. An amount representing the recorded value of stock payments made by a natural gas company to affiliated companies for entering into contracts for the sale and purchase of gas is properly eliminated from original cost as a basis for rate making, p. 17.

Valuation, § 134 — Engineering fees — Percentage basis — Affiliates.

12. The general rule in rate making against profits in connection with transactions between affiliates warrants the elimination of sums paid by a natural gas company to an affiliated engineering company based on a percentage of construction costs, in the absence of any showing that any costs had been incurred in connection with rendering engineering services, p. 17.

Valuation, § 168 — Cost determination — Expenditures charged to operating expense.

13. Expenditures previously charged to current operating expense, in the exercise of discretion, are properly eliminated from capital investment upon which a natural gas company is entitled to receive a return, p. 18.

Valuation, § 139 — Interest during construction — Construction period.

14. Natural gas companies are not entitled to an allowance in the rate base for interest during construction after the construction period ends and they begin to receive earnings, p. 18.

Valuation, § 139 — Interest during construction — Basis — Cost excluded from rate base.

15. An allowance for interest during construction should not be allowed on the excess cost of leaseholds over the original cost to an affiliated company when such excess has been excluded from the rate base, p. 18.

Valuation, § 332 —Going concern value — Separate allowance.

16. Going concern value, even though it is an element for appropriate inclusion in the rate base, need not be separately stated as such and added to cost figures attributable to physical property, p. 19.

Apportionment, § 31 — Cost allocation — Natural gas company — Wholesale and retail transactions.

17. In a rate investigation involving companies selling gas not only for

resale (subject to regulation) but also to industrial consumers (not subject to regulation), an allocation of the cost of supplying gas service to customers cannot be said to be a fatally inappropriate or infirm means of effectuating a separateness of the property and capital used in the integrated business where the integrated properties are designed and are being used in making both direct sales and resales, the companies rely on the same transmission and other facilities in serving both classes of customers, and both classes of customers jointly share the benefit of the same facilities and gas supply, although the Commission makes no separation or allocation of the property, p. 20.

Appeal and review, § 28.4 — Conclusiveness of finding — Allocation method.

18. Orders of the Federal Power Commission reducing rates for wholesale natural gas business are not open to further judicial inquiry, on the ground that the Commission's method of allocation of cost of service between regulated and unregulated business is erroneous, where the impact of the orders of reduction, each in its totality, cannot be said to produce arbitrary results or to overstep the bounds of due process, p. 20.

Appeal and review, § 28.3 — Conclusiveness of findings — Accrued depreciation.

19. A determination of accrued depreciation by use of the service-life principle instead of observed per cent condition of the property as a basis is conclusive on a reviewing court, in the absence of impingement upon due process, when there is no basis in the record on which it can be concluded that such determination will result in rate orders in their entirety causing a failure to restore the capital investment at the end of the term, p. 21.

Depreciation, § 67 — Natural gas reserves — Pressure-decline method.

20. The Commission may select the pressure-decline method of estimating recoverable reserves of natural gas as the most satisfactory and reliable means of determining the reserves and is not required to accept at face value the opinion evidence of witnesses who testify as experts in respect to volume, where it appropriately weighs such elements as existing volume, pressure differentials and consequent drainage, and other recovery factors, p. 22.

Return, § 25 — Factors affecting reasonableness — Comparable returns.

21. A public utility is entitled to such rates as will permit it to earn a return on the value of its property devoted to the convenience of the public substantially equal to that generally being earned in the same area by other business enterprises attended by corresponding characteristics, including uncertainties, risks, hazards, and other elements affecting the operations, p. 24.

Return, § 24 — Reasonableness — Factors considered — Financial soundness.

22. The return of a public utility should be sufficient in amount to secure confidence in the financial soundness of the utility and to enable it under efficient management to maintain its credit, p. 24.

Return, § 103 — Natural gas company — Confiscation.

23. A return of 6½ per cent on the rate base of natural gas companies was held not to be so inadequate as to amount to confiscation, p. 24.

APPEARANCES: Elmer L. Brock and E. R. Campbell (Wm. A. Dougherty and C. W. Cooper were with them on the brief) for petitioner, Colorado

Interstate Gas Company; John P. Akolt and Charles H. Keffer (P. C. Spencer was with them on the brief) for petitioner, Canadian River Gas Company; Donald C. McCreery (Lee, Shaw and McCreery, and Wm. A. Bryans, III, were with him on the brief) for petitioner, Colorado-Wyoming Gas Company; Edward H. Lange (Charles V. Shannon, L. W. McKernan, and Milford Springer were with him on the brief) for respondent, Federal Power Commission; Thomas H. Gibson (Malcolm Lindsey was with him on the brief) for respondent, city and county of Denver, Colorado.

Before Bratton, Huxman and Murrah, Circuit Judges.

BRATTON, CJ.: These cases bring here for review orders of the Federal Power Commission requiring Canadian River Gas Company, Colorado Interstate Gas Company, and Colorado-Wyoming Gas Company to make reductions in their respective rates for natural gas transported in interstate commerce and sold for resale for ultimate public consumption. Reference will be made to the companies as Canadian, Colorado, and Wyoming, respectively.

The city and county of Denver filed with the Commission a complaint charging that the rates of Canadian, Colorado, and Public Service Company were unjust and unreasonable; similarly, the Public Service Commission of the state of Wyoming filed with the Commission a complaint charging that the rates of Wyoming were unjust and unreasonable; and the Commission instituted on its own motion an investigation into the reasonableness of the rates of Canadian, Colorado, and Wyoming. Canadian and Colorado filed with the Commission their joint application for a stay of the order directing that the investigation be instituted; the Commission denied the application; the companies sought review; and it was denied on the ground that the order was merely preliminary and procedural and therefore not open to review. Canadian River Gas Co. v. Federal Power Commission (1940) 34 PUR(NS) 448, 110 F(2d) 350, (1940) 36 PUR(NS) 46, 113 F(2d) 1010, certiorari denied (1940) 311 US 693, 85 L ed 449, 61 S Ct 76. By order of the Commission, the three proceedings were consolidated for purposes of hearing. At the conclusion of extended hearings, the Commission found that the revenues and costs of the companies for 1939 were fairly representative of the relationship which would exist between such items in the immediate future, and that use of the figures for that year resolved most of the doubts as to future operation conditions in favor of the companies. Using the figures for 1939, the Commission determined that the rates and charges of Canadian for gas sold to Colorado and Clayton Gas Company were unjust and unreasonable to the extent of $561,000 annually; that the rates and charges of Colorado were unjust and unreasonable in the amount of $2,065,000 annually; and that those of Wyoming were unjust and unreasonable in the sum of $119,000. The Commission ordered the companies to reduce their rates and charges by not less than such amounts, respectively, and directed that schedules of rates be filed effecting such reductions. The

companies applied for a rehearing; the Commission denied the applications; and the companies severally sought review.

Southwestern Development Company, through its wholly owned subsidiary, Amarillo Oil Company, owned gas leaseholds in more than 315,000 acres of land in the Texas Panhandle Field; Cities Service Company, through its wholly owned subsidiary, Public Service Company, at Denver, Colorado, and its wholly owned subsidiary, Pueblo Gas and Fuel Company, at Pueblo, Colorado, controlled the resale market for gas in the two cities, but did not have an adequate supply of natural gas or pipe-line facilities for the transportation of natural gas to such cities. After extended negotiations, Southwestern, Cities Service, and Standard Oil Company of New Jersey, entered into an agreement denominated "Memorandum of Stipulations," and dated April 5, 1927. The primary objectives of the contracting parties, as expressed in the agreement, were the acquisition of natural gas properties in the gas field, the construction of a pipe line from the field to the city of Denver via Pueblo and Colorado Springs, the sale and delivery of natural gas at the city gate of Denver and other cities for distribution in such cities, and the supplying of natural gas to Colorado Fuel and Iron Corporation at Pueblo. Under the terms of the contract, Southwestern was to cause to be transferred to a new wholly owned subsidiary the leaseholds and gas producing properties, and to develop such properties into a source of supply of natural gas; Standard was to cause a corporation to be formed which would construct and maintain a natural gas pipe-line and appurtenant facilities for the transmission and sale of gas; and Cities Service, through its subsidiaries, was to obtain franchises and rate ordinances in Denver and Pueblo, respectively, for the sale of natural gas, and convert the artificial gas distribution plants then in use in such cities into natural gas distribution plants. The newly formed subsidiary of Southwestern was to sell at cost gas to the pipe-line company; and, with provisions for revision which need not be detailed, the pipe-line company was to sell and make delivery at the city gate at the rate of 40 cents per thousand cubic feet. The producing company and the pipe-line company, and the pipe-line company and the distributing companies, were to enter into contracts carrying out the commitments made in the Memorandum of Stipulations; and such contracts were to be for a term of twenty years from and after the execution of the first thereof, and as long thereafter as natural gas might be profitably sold by the pipe-line company. The contract further provided that in case an acceptable rate ordinance was not secured in the city of Denver, on or before July 1, 1927, the parties thereto, or any of them, might terminate participation therein, and each thereupon be free to act as though such stipulations and any agreements thereunder had never been made.

Franchises and rate ordinances were obtained in Denver and Pueblo; Canadian was incorporated as the subsidiary of Southwestern; and Standard caused Colorado to come into existence. Canadian and Colorado, Colorado and Public Service Company, and

Colorado and Pueblo Gas and Fuel Company, respectively, entered into contracts as provided in the Memorandum of Stipulations; and by contractual arrangements, Colorado obligated itself to sell natural gas to the city of Colorado Springs for distribution by the city in its municipally owned distribution system and for sale to industrial and commercial consumers. Southwestern caused Amarillo Oil Company to convey the leases to Canadian. Canadian paid Amarillo Oil Company the sum of $5,000,000 for the leases and the then producing wells. Southwestern and Standard had agreed upon that amount, and it was paid with funds furnished by Standard. Canadian was financed through the issuance of bonds in the amount of $11,000,000, all of which were purchased by Colorado with funds furnished by Standard. Colorado issued 1,250,000 shares of common stock without par value, of which 42½ per cent was issued to Southwestern, 42½ per cent to Standard, and 15 per cent to Cities Service; and it issued preferred stock valued at $2,000,000, one-half to Standard and one-half to Southwestern. Standard paid Colorado $1,000,000 in cash for the common stock issued to it and a like sum for its preferred stock. No cash consideration was paid for the stock issued to Southwestern or Cities Service. Colorado issued bonds in the amount of $19,200,000. These were sold to Standard for cash at par, and the proceeds, along with the cash which Standard paid for the stock issued by Colorado, aggregating $21,200,000, was used to finance the project. Canadian developed the leaseholds, and constructed a main transmission pipe line from the field to Clayton Junction in New Mexico, a distance of approximately 86 miles; and Colorado constructed a main transmission line from Clayton Junction to the city gate at Denver, a distance approximating 254 miles, three compressors, and various laterals extending from the main line to customers of the company, including a lateral to the plant of Colorado Fuel and Iron Corporation. On December 31, 1939, Canadian had in operation a total of 94 gas wells; and its gathering system consists of about 144 miles of pipe, and has two terminals. One terminal is located at the Bivins Station where the gas there gathered is compressed and then transmitted through the transmission line to Clayton Junction where virtually all of it is sold to Colorado but a small amount is sold to Clayton Gas Company. The other terminal is located at Fritch Station where the gas there gathered is compressed and then transported through the facilities of Texoma Natural Gas Company to Gray Junction, in Oklahoma, where it is sold to Colorado. Colorado sells that gas to Natural Gas Pipe-line Company, and it moves to its destination, known as the Chicago market.

The facilities of Wyoming consist of a main transmission pipe line extending from a point near Littleton, Colorado, to the city gate at Cheyenne, Wyoming, compressor stations, and a number of laterals extending from the main line to city gates and industrial plants in Colorado and Wyoming. From the inception of the project until the latter part of 1929, the company obtained its entire supply of natural gas from the Wellington Field in

Colorado. But early in 1929, the supply from that field began diminishing rapidly; it became essential that the company secure another source in order to continue in business; in October of that year, it entered into a contract with Colorado for the purchase of gas from that company with which to supply its customers in the states of Colorado and Wyoming; and ever since Colorado has sold gas to Wyoming, deliveries being made at the point adjacent to Littleton.

In 1939, Canadian sold for resale approximately 46,000,000 thousand cubic feet of gas, of which about 41,000,000 thousand cubic feet were sold to Colorado; Colorado sold about 20,000,000 thousand cubic feet of such gas to Natural Gas Pipe-line Company, about 7,000,000 thousand cubic feet to Colorado Fuel and Iron Corporation, and about 6,000,000 thousand cubic feet to Public Service Company; and Wyoming transported and sold 2,860,000 thousand cubic feet, some to affiliates for resale through distribution systems in towns and communities in Colorado and Wyoming, some to other companies for like distribution, some to industrial consumers, and some to United States Army posts.

[1, 2] *The Motions to Dismiss*— The city and county of Denver filed separate motions to dismiss the petitions for review of Canadian and Colorado, and Public Service Commission of Wyoming filed a like motion to dismiss the petition for review of Wyoming. We denied the motions, but thereafter the city and county filed a brief, and later its counsel participated in the oral argument, renewing the contention that the petitions should be dismissed for want of jurisdiction. The grounds of each motion are that it appears from the face of the petition for review that the petitioning company is a private corporation organized and existing under the laws of Delaware; that the petition fails to allege that the company is located in this circuit; and that it affirmatively appears from the face of the petition, the face of the record, the testimony of the company's own witnesses, and facts dehors the record that the company is not located and does not have its principal place of business in this circuit. These companies were incorporated under the laws of Delaware, and therefore their legal residence and domicile is in that state. Shaw v. Quincy Mining Co. (1892) 145 US 444, 36 L ed 768, 12 S Ct 935; Southern P. Co. v. Denton (1892) 146 US 202, 36 L ed 942, 13 S Ct 44; Home Powder Co. v. Geis (1913) 123 CCA 94, 204 Fed 568; Continental Coal Corp. v. Roszelle Bros. (1917) 155 CCA 83, 242 Fed 243; Dryden v. Ranger Refining & Pipe Line Co. (1922) 280 Fed 257, certiorari denied (1922) 260 US 726, 67 L ed 483, 43 S Ct 89; in Re Hudson River Nav. Corp. (1932) 59 F (2d) 971.

But § 19(b) of the Natural Gas Act, 52 Stat 821, 15 USCA § 717r (b), provides that any party to a proceeding under the act who is aggrieved by an order of the Commission made in the proceeding may obtain a review of the order in the circuit court of appeals of any circuit in which the natural gas company to which the order relates is located or has its principal place of business, or in the court of appeals of the District of Columbia,

by filing in such court within the time specified a petition in writing praying that the order be modified or set aside in whole or in part. It is to be noted that the statute provides in clear language that review may be had either in the circuit where the company is located or in the circuit where its principal place of business is located, the pivotal language being stated in the disjunctive. It is commonplace for a corporation chartered in one state to conduct much or all of its business in another state far distant from that of incorporation. No doubt mature considerations of convenience gave rise to the deliberate care with which Congress, in the exercise of its discretion, authorized review in the circuit within which the principal business of the company is conducted. And the principal place of business is where the actual business of the corporation is conducted or transacted. It is a question of fact to be determined in each particular case by taking into consideration such factors as the character of the corporation, its purposes, the kind of business in which it is engaged, and the situs of its operations. Cf. in Re Guanacevi Tunnel Co. (1912) 201 Fed 316; in Re Hudson River Nav. Corp. *supra;* Chicago Bank of Commerce v. Carter (1932) 61 F(2d) 986.

Section 5, Chap 65, Revised Code of Delaware, provides that the certificate of incorporation shall set forth the name of the county, and the city, town, or place within the county, in which the principal office or place of business of the corporation is located in that state; and § 32 provides that every corporation shall maintain a principal office or place of business in the state. Here, in each instance, the certificate of incorporation states the location of the principal office of the company in Delaware, but it is completely silent in respect of the place of business. All of the physical properties and business operations of Colorado and Wyoming are located and conducted within this circuit. Wyoming maintains offices in Denver where its executive officers and agents supervise and administer its properties and operations. Canadian transports almost 90 per cent of the natural gas which it produces into this circuit, part into New Mexico and part into Oklahoma, where virtually all of it is sold to Colorado. The properties of Canadian and Colorado are operated as a unit. The two companies have a single general manager and jointly maintain an office in Colorado Springs, under the charge of such manager, from where the supervision, direction, and management of the affairs of both companies are conducted. There are approximately thirty-six employees in the office, some devote their entire time to the business of Colorado and are paid by that company, some divide their time between the business of the two companies, and their salaries are paid partly by each company. The general manager is in charge of all operations of Canadian, including the gas fields and a field operating office in Texas; the chief dispatcher, who keeps in constant touch with the expected demands for gas and gives orders for the amount of gas to be piped, has his office in Colorado Springs and is under the supervision of the general manager. The principal books of account are kept in Colorado Springs, under the direction of the assistant

treasurer of the company who maintains his office there. All major purchases for both companies are made and all bills for materials purchased are paid by vouchers issued out of the office there; all dealings between the two companies in connection with the purchase and sale of gas are conducted in and through the office there; and the principal bank account of Canadian is kept in banks in that city. We think it is clear that the principal place of business of each company is in this circuit, within the meaning of the statute. Continental Coal Corp. v. Roszelle Bros. *supra;* Dryden v. Ranger Refining & Pipe Line Co. *supra;* in Re Lone Star Shipbuilding Co. (1925) 6 F(2d) 192. And we therefore adhere to the view that the motions to dismiss are ill-founded.

[3] *Jurisdiction of Production and Gathering Properties*—Canadian attacks the order relating to the reduction in its rates and charges on the ground that the Commission erroneously undertook to exercise unauthorized rate-regulatory jurisdiction over the production and gathering properties, facilities and business of the company. Section 1(a) of the act, 15 USCA § 717(a), declares "that the business of transporting and selling natural gas for ultimate distribution to the public is affected with a public interest, and that Federal regulation . . . relating to the transportation of natural gas and the sale thereof in interstate . . . commerce is necessary in the public interest." Section 1(b) limits the act in its application "to the transportation of natural gas in interstate commerce, to the sale in interstate commerce of natural gas for resale for ultimate public consumption for domestic, commercial, industrial, or any other use, and to natural-gas companies engaged in such transportation or sale," and further provides in express terms that it "shall not apply . . . to the production or gathering of natural gas." Section 2(6), 15 USCA § 717a(6), provides that a natural gas company is a company engaged in the transportation of natural gas in interstate commerce, or the sale in interstate commerce of such gas for resale. Section 4(a), 15 USCA § 717c(a), declares that rates and charges in connection with the transportation of natural gas subject to the jurisdiction of the Commission "shall be just and reasonable, and any such rate or charge that is not just and reasonable is hereby declared to be unlawful." Section 5(a), 15 USCA § 717d(a), directs the Commission to "determine the just and reasonable rate . . . and shall fix the same by order." Section 6(a), 15 USCA § 717e(a), empowers the Commission to "investigate and ascertain the actual legitimate cost of the property of every natural-gas company, the depreciation therein, and, when found necessary for rate-making purposes, other facts which bear on the determination of such cost or depreciation and the fair value of such property." Section 7, 15 USCA § 717f, vests in the Commission certain powers relating to the improvement, establishment of physical connections, abandonment, construction, or extension of transportation facilities of natural gas companies. Section 8, 15 USCA § 717g, enables the Commission to require natural gas companies to keep and main-

tain accounts and records. Section 9, 15 USCA § 717h, charts the authority of the Commission in relation to rates of depreciation and amortization of the several classes of property of natural gas companies. Section 10, 15 USCA § 717i, concerns the filing with the Commission of periodic and special reports. Section 11, 15 USCA § 717j, is addressed to the duties of the Commission respecting state compacts dealing with the conservation, production, transportation, or distribution of natural gas. And § 14(a), 15 USCA § 717m(a), authorizes the Commission to "investigate any facts, conditions, practices or matters which it may find necessary or proper to determine whether any person has violated or is about to violate any provision of this act." The primary legislative purpose in the passage of the act was to provide comprehensive regulation of the wholesale distribution to public service companies of natural gas moving interstate, and to vest in the Commission as the instrumentality of Congress power to exercise such regulation. Illinois Nat. Gas Co. v. Central Illinois Pub. Service Co. (1942) 314 US 498, 86 L ed 371, 42 PUR(NS) 53, 62 S Ct 384; Ohio Pub. Utilities Commission v. United Fuel Gas Co. (1943) 317 US 456, 87 L ed 396, 46 PUR(NS) 257, 63 S Ct 369. And the grant of powers expressly conferred upon the Commission carried with it by implication all authority reasonably necessary and fairly appropriate to make such powers fully efficacious, and to render effectual the discharge of the duties of the Commission. But, under § 1 (b) the Commission does not have express or implied rate-regulatory jurisdiction of the production and gathering of gas.

Canadian is engaged in the business of producing, gathering, transporting and selling interstate natural gas for resale for ultimate public consumption. It therefore is a natural gas company, subject to the jurisdiction of the Commission in respect to its rates and charges for the gas transported and sold in such commerce. Its production and gathering properties and facilities are parts of its integrated operations. Still, under § 1 of the act they lie beyond the range of the rate-regulatory jurisdiction of the Commission. But the Commission did not prescribe charges for the production; did not fix rates for the gathering of gas; and did not exercise other rate-regulatory jurisdiction over production or gathering of such, within the meaning of the limiting and forbidding provisions of the act. The Commission did not attempt to affect in any manner the acquiring and maintaining of gas leaseholds, gas rights, or gas wells. Neither did it undertake to affect anywise the location, construction, extension, or physical connections of pipe lines, or the operation of pipe lines or other facilities constituting the gathering properties. The rate-regulatory jurisdiction of the Commission was exerted only in respect of rates and charges for natural gas transported in interstate commerce and sold in such commerce for resale for ultimate public consumption. The Commission inquired into and considered the production and gathering properties in respect to cost, depreciation, operating expenses, and revenues. But the inquiry was merely in their relation to

the fixing of reasonable rates to be exacted and received for the natural gas moved in interstate commerce and sold for resale. And the order of the Commission in each instance operated only upon such rates and charges. We fail to find in the act anything which expressly or by fair implication indicates a congressional purpose to restrict or withhold from the Commission jurisdiction in a case of this kind to take into consideration the production and gathering properties only as they have bearing upon the question of the fixing of reasonable rates for gas moved interstate and sold for public consumption.

[4, 5] *Abrogation of Prices Fixed by Contract Prior to Effective Date of the Act*—While not challenging the constitutional validity of the Natural Gas Act on its face, or as it may be applied in general, Canadian and Colorado advance the contention that here the Commission erred in applying it retrospectively in such manner as to abrogate prices agreed upon in contracts of limited term entered into and substantially performed prior to the enactment of the act, at a time when neither company was in fact or in law a utility or common carrier, and when each disclaimed all of the privileges and obligations as such. The contracts between Canadian and Colorado, Colorado and Public Service Company, Colorado and Pueblo Gas and Fuel Company, Colorado and the city of Colorado Springs, and Colorado and Wyoming, respectively, were each executed prior to the date on which the act became effective; they were of limited term; and they had been performed in substantial part at the time the act went into effect. But at all times, the transportation and sale of natural gas in interstate commerce for wholesale distribution to public service companies or municipalities for resale to domestic consumers was subject to regulation by Congress. Missouri ex rel. Barrett v. Kansas Nat. Gas Co. 265 US 298, 68 L ed 1027, PUR1924E 78, 44 S Ct 544; Illinois Nat. Gas Co. v. Central Illinois Pub. Service Co. *supra;* Federal Power Commission v. Natural Gas Pipeline Co. (1942) 315 US 575, 86 L ed 1037, 42 PUR(NS) 129, 62 S Ct 736; Ohio Pub. Utilities Commission v. United Fuel Gas Co. *supra.* And the exertion of the power of Congress in its regulation of interstate commerce is not fettered by preëxisting contracts or arrangements. The exercise of power under the Commerce Clause cannot be subordinated to arangements or stipulations previously effected. Contracts and arrangements of that kind necessarily are entered into with knowledge of the paramount authority of Congress to regulate commerce among the states. Union Bridge Co. v. United States (1907) 204 US 364, 51 L ed 523, 27 S Ct 367; Monongahela Bridge Co. v. United States (1910) 216 US 177, 54 L ed 435, 30 S Ct 356; Philadelphia Co. v. Stimson (1912) 223 US 605, 56 L ed 570, 32 S Ct 340; Philadelphia, B. & W. R. Co. v. Schubert (1912) 224 US 603, 56 L ed 911, 32 S Ct 589; Greenleaf-Johnson Lumber Co. v. Garrison (1915) 237 US 251, 59 L ed 939, 35 S Ct 551; Continental Ins. Co. v. United States (1922) 259 US 156, 66 L ed 871, 42 S Ct 540; Sproles v. Binford, 286 US 374, 76 L ed 1167, PUR1932E 157, 52 S Ct 581; Fed-

eral Radio Commission v. Nelson Bros. Bond & Mortg. Co. 289 US 266, 77 L ed 1166, PUR1933D 465, 53 S Ct 627, 89 ALR 406.

It is emphasized that at the time the contracts were entered into neither of these companies was in fact or in law a public utility or common carrier, and that each disclaimed all of the privileges and obligations as such. These companies have never sought or acquired any certificate of public convenience and necessity, any franchise, or any right to enter a municipality; they have never advertised or represented that they would sell gas to the public generally; and they have never filed any rate schedule with any regulatory Commission or any other authority. At the time the act became effective, and since, Canadian transported and sold interstate gas to Colorado, and also made sales for resale to a distributing company; and Colorado made sales for resale to one municipality, four or five distributing companies, and two pipe lines, and made direct sales to five industrial customers, under private contracts respecting price, quantity, time of delivery, and so forth. But freedom of contract does not place it within the power of companies engaged in business of that kind to restrict or withhold from the control of Congress at a later time so much of the field of regulation of interstate commerce as they choose to bring within the range of their arrangements. Even though executed prior to the enactment of the act, contracts of that nature are subject to regulation in the public interest. Cf. Mississippi River Fuel Corp. v. Federal Power Commission (1941) 40 PUR(NS) 213, 121 F(2d) 159.

The companies made large investments on the strength of the contracts but that is not decisive, as in the very nature of things they were made subject to the exercise of the paramount authority of regulation. Federal Radio Commission v. Nelson Bros. Bond & Mortg. Co. *supra*.

[6, 7] *Requiring the Impossible of Canadian*—Canadian attacks the order relating to its rates and charges on the further score that it requires the company to do the impossible, and violates due process. The contract between Canadian and Colorado requires Canadian to develop, operate, and maintain its properties with diligence, so as to produce sufficient natural gas to meet the requirements of Colorado; to sell the gas to Colorado at cost; to make no contract for the sale of gas that might impair its capacity to produce gas for delivery to Colorado; to credit Colorado with all revenues, income, or profits which it may receive from any other source; and to disburse funds received from any source only in the discharge of its obligations under the contract with Colorado and any other contracts permitted under its provisions, and in payment of principal and interest on its outstanding indebtedness. It is argued that the contract forecloses any possibility of profit to Canadian and therefore the order exacts the impossible and is confiscatory. The power to regulate commerce is subject to the limitations and guaranties of the Constitution. Monongahela Nav. Co. v. United States (1893) 148 US 312, 37 L ed 463, 13 S Ct 622; United States v. Chicago, M. St. P. & P. R. Co. 282 US 311, 75 L ed 359, PUR1931B 314, 51 S Ct 159. But permissible regulation of rates

does not insure that the business shall produce net revenues, and any rate may be decreased which is not the lowest reasonable rate. Federal Power Commission v. Natural Gas Pipeline Co. *supra.*

This contention in its entirety proceeds upon the premise that since Canadian under the contract sells gas to Colorado at cost, there is no possibility of profit accruing to Canadian. But apparently the argument fails to give consideration to the fact that in connection with the contract under which Canadian furnishes and Colorado accepts the gas, Canadian received initially $5,000,000 in cash from Standard; that Colorado without cash consideration issued to Southwestern 42½ per cent of all its common stock, and preferred stock of the value of $1,000,000; that Southwestern shares on that basis in the beneficial ownership of Colorado and in its net earnings from time to time; and that in view of the relation existing between Southwestern and Canadian, Canadian in effect shares accordingly. Taking these and other factors into account, there appears no basis for challenging the order on the ground that it exacts the impossible and is confiscatory.

[8] *The Sufficiency of the Evidence to Support the Finding of Unreasonableness of Rates and Charges*—The finding of the Commission that the rates and charges of the companies were unjust and unreasonable is questioned for want of substantial evidence to support it. The passage of the act, *supra,* did not automatically overthrow the contracts into which these companies had previously entered. Neither did it ipso facto set aside the schedules of charges upon which they had agreed. Such rates and charges could be modified only after an express finding of unreasonableness. Wichita R. & Light Co. v. Kansas Pub. Utilities Commission, 260 US 48, 67 L ed 124, PUR 1923B 300, 43 S Ct 51; Allen W. Hinkel Dry Goods Co. v. Wichison Industrial Gas Co. (1933) 64 F(2d) 881. And the right of the Commission to make a finding of unreasonableness depends upon the existence of the fact. In the absence of substantial evidence to show that the rates and charges in existence are unreasonable, a finding to that effect constitutes the arbitrary exercise of power by administrative fiat and cannot stand. Interstate Commerce Commission v. Louisville & N. R. Co. (1913) 227 US 88, 57 L ed 431, 33 S Ct 185.

But a finding of unreasonableness made after a full hearing carries with it a presumption of correctness, and the burden rests upon him who attacks it on review for want of substantial evidence to show the absence of such evidence. An extended analysis of the voluminous evidence would not serve any useful purpose as no two cases of this kind are alike in point of fact. We are content to say that a careful examination of the entire record convinces us that the finding is supported by substantial evidence, and therefore under § 19(b) of the act, *supra,* it is conclusive.

[9] *The Question of Value*—Coming to the question of the rate base, Canadian and Colorado each submitted evidence tending to show reproduction cost new, less observed depreciation, and they also submitted evidence as to the original cost of the property. Wyoming introduced evidence as to actual construction costs, less observed

depreciation, plus working capital and additions to plant. The evidence of the Commission staff was restricted to original cost. After considering the estimates of reproduction cost new, less observed depreciation, the Commission concluded that they were too conjectural to have probative value, as they were not based upon established facts, but were subject to the vagaries of theories and imagination. Turning to the evidence of original cost, the Commission found that the properties were all of comparatively recent acquisition or construction; that the accounting records had been sufficiently adequate and well maintained to permit a ready determination of all costs involved; that the major portion of all cost of Canadian and Colorado had been incurred since the adoption by such companies of an accounting system based on the Code of Accounts of the Public Service Commission of Pennsylvania; that the basic facts were clear and essentially undisputed; that they represented the best and only reliable evidence respecting property values; and that, in accordance with § 6 of the act, *supra,* and under the record in the proceeding, no necessity existed to consider other factors than original cost. The Commission then determined original cost as of December 31, 1939, deducted a sum representing accrued depreciation, depletion, and amortization, added an amount for working capital and additions to plant, and in the case of Wyoming made a deduction for customer contributions. The amount reached by that method of computation, denominated by the Commission as prudent investment, was adopted as the rate base. The companies contend that the rate base should have been grounded upon present fair value. It must be conceded that the contention finds support in many cases holding that while actual cost, cost of reproduction new, and other elements affecting value should be taken into account and given their proper weight, the final basis of calculation in the regulation of rates of a public utility is a fair return upon the present fair value of the property used for the convenience of the public. Smyth v. Ames (1898) 169 US 466, 546, 42 L ed 819, 18 S Ct 418; San Diego Land & Town Co. v. National City (1899) 174 US 739, 757, 43 L ed 1154, 19 S Ct 804; San Diego Land & Town Co. v. Jasper (1903) 189 US 439, 442, 47 L ed 892, 23 S Ct 571; Willcox v. Consolidated Gas Co. (1909) 212 US 19, 41, 53 L ed 382, 29 S Ct 192, 48 LRA(NS) 1134, 15 Ann Cas 1034; The Minnesota Rate Cases (1913) 230 US 352, 434, 57 L ed 1511, 33 S Ct 729, 48 LRA(NS) 1151, Ann Cas 1916A 18; Missouri ex rel. Southwestern Bell Teleph. Co. v. Public Service Commission, 262 US 276, 287, 67 L ed 981, PUR1923C 193, 43 S Ct 544, 31 ALR 807; Bluefield Water Works & Improv. Co. v. West Virginia Pub. Service Commission, 262 US 679, 690, 67 L ed 1176, PUR1923D 11, 43 S Ct 675; Public Utility Comrs. v. New York Teleph. Co. 271 US 23, 31, 70 L ed 808, PUR1926C 740, 46 S Ct 363; McCardle v. Indianapolis Water Co. 272 US 400, 410, 71 L ed 316, PUR 1927A 15, 47 S Ct 144; St. Louis & O'Fallon R. Co. v. United States, 279 US 461, 484, 73 L ed 798, PUR1929C 161, 49 S Ct 384; Los Angeles Gas & E. Corp. v. California R. Commission, 289 US 287, 305, 77

L ed 1180, PUR1933C 229, 53 S Ct 637.

But the late case of Federal Power Commission v. Natural Gas Pipeline Co. *supra,* 315 US at p. 586, 42 PUR(NS) at p. 138, involved an order of the Commission reducing the rates of two companies engaged in business as a single enterprise in the production and transportation interstate of natural gas for sale at wholesale to public utilities, and the court there held that the "Constitution does not bind rate-making bodies to the service of any single formula or combination of formulas. Agencies to whom this legislative power has been delegated are free, within the ambit of their statutory authority, to make the pragmatic adjustments which may be called for by particular circumstances. Once a fair hearing has been given, proper findings made and other statutory requirements satisfied, the courts cannot intervene in the absence of a clear showing that the limits of due process have been overstepped. If the Commission's order, as applied to the facts before it and viewed in its entirety, produces no arbitrary result, our inquiry is at an end." And the later case of Federal Power Commission v. Hope Nat. Gas Co. (1944) 320 US 591, 88 L ed 276, 51 PUR(NS) 193, 200, 64 S Ct 281, similarly involved an order of the Commission requiring a reduction in rates of a company engaged in the business of producing, purchasing, transporting, and selling at the state line natural gas for continuous movement and ultimate distribution in other states. There the rate base adopted by the Commission was substantially identical with that here; and there, as here, it was attacked on the ground that present fair value is the only permissible rate base. But the court rejected the contention and upheld the order. In doing so, the court said that, "Under the statutory standard of 'just and reasonable' it is the result reached not the method employed which is controlling. . . . It is not theory but the impact of the rate order which counts. If the total effect of the rate order cannot be said to be unjust and unreasonable, judicial inquiry under the act is at an end. The fact that the method employed to reach that result may contain infirmities is not then important." These two cases are controlling. And guided by them, it is clear that neither of these orders is to be invalidated for failure of the Commission to use present fair value as the rate base, unless in its totality it oversteps the limits of due process.

[10] *Disallowances in Arriving at Original Cost*—In arriving at the original cost of the properties, the Commission eliminated certain items appearing on the books of the companies. Canadian paid to Amarillo Oil Company the sum of $5,000,000 in cash for the leaseholds. Their original cost to Amarillo Oil Company was only $1,879,504. Since Canadian and Amarillo were wholly owned subsidiaries of Southwestern, the Commission eliminated $3,120,496, representing the difference between the cost to Amarillo Oil Company and the amount which Canadian paid. By the Memorandum of Stipulations, Southwestern, the parent of Canadian and Amarillo Oil Company, obligated itself to cause the leaseholds to be devoted to the proposed project. Disregarding the fiction of separate corporate en-

tity, and looking to substance, the contention that the leaseholds should be included at the figure which Canadian paid Amarillo Oil Company rather than the original cost to Amarillo Oil Company amounts in substance to receiving a return on $5,000,000 for property which actually cost less than $2,000,000. There is no proper place in the field of rate making for synthetic inflation of that kind. Pennsylvania Power & Light Co. v. Federal Power Commission (1943) 52 PUR(NS) 275, 139 F(2d) 445.

[11] As to Colorado, the Commission eliminated $2,352,940, representing the recorded value of stock payments made to Southwestern and Cities Service for entering into contracts for the sale and purchase of gas. By the Memorandum of Stipulations, Southwestern was obligated to require its subsidiary, Canadian, to enter into a contract to sell gas to Colorado, and Cities Service was similarly obligated to require its subsidiaries, Public Service Company and Pueblo Gas and Fuel Company, each, to enter into a contract for the purchase of gas from Colorado. But, according to the records of Colorado, Canadian refused to enter into the contract for the sale of gas to Colorado, and Cities Service refused to direct or permit its subsidiary to enter into the contracts for the purchase of gas from Colorado; and thereupon Colorado issued to Southwestern as the nominee of Canadian 10,000 shares of preferred and 531,250 shares of common stock, and issued to Cities Service 187,500 shares of common stock. The resolution to the Board of Directors of Colorado authorizing the issuance of such stock recited that the stock first described be issued as part of the consideration for Canadian entering into the contract, and the stock last described be issued in consideration of Cities Service directing its subsidiaries to enter into contracts. The record offers little or no explanation of the refusal to enter into the contracts as provided with binding effect in the Memorandum of Stipulation, or of the failure of Colorado to exact that they be entered into without additional consideration or inducement. Though the reasons may have been satisfactory to the parties in interest, it is manifest that the legitimate cost of Colorado's property for rate-base purposes could not be swelled by the issuance of stock in circumstances of that kind. Cf. Northwestern Electric Co. v. Federal Power Commission (1944) 321 US 119, 88 L ed —, 52 PUR(NS) 86, 64 S Ct 451.

[12] As to Wyoming, the Commission rejected $82,792.57, representing sums paid to Henry L. Doherty & Company for engineers' fees. Wyoming and the Doherty Company maintained a contractual arrangement under which the Doherty Company placed at the service of Wyoming its combined experience, advice, and assistance in solving such problems as might arise in connection with the conduct of the business of Wyoming. The tendered advice and assistance related to numerous services, including designing and construction engineering, and fixed the compensation for each, including an engineering fee equal to 5 per cent of the cost of construction. An affiliate relationship existed between the two companies; Wyoming was unable on request to furnish the Commission any showing that any cost had been incurred in connection with the render-

ing of engineering services; and there was testimony that the books and records of Wyoming failed to contain any indication that the fees represented any actual cost of services for which the amount was paid. In short, there was no showing satisfactory to the Commission that any engineering services were rendered. The general rule in rate making against profits in connection with transactions between affiliates warranted the Commission in eliminating the item. Cf. Pennsylvania Power & Light Co. v. Federal Power Commission, *supra.*

[13] The Commission eliminated from the capital account of Canadian the sum of $129,032, being expenditures previously charged to current operating expense but now sought to be capitalized; it made a like deduction of $440,050 from the account of Colorado; and that action is challenged. In each instance the company added or sought to add the amount of its book costs to arrive at its claimed original cost. The amount represented reaccounting rather than the correction of accounting, for the charges were made to operating expense in conformity with the established accounting policy of the company in effect at the time, and they were never considered capital investment until the Commission began its investigation. In respect of many expenditures there is at best an indistinct line of demarcation between operating costs and capital costs. It often is difficult to blueprint a clear distinction between expenditures made for operation and maintenance and those made for construction. And therefore a natural gas company, as defined by the act, *supra,* must be allowed to exercise a measure of discretion in making its determination between the two. But a method, reasonably acceptable to good accounting, must be adopted and adhered to consistently. Consistent principles and practices of accounting must be followed. Change cannot be made at will. These companies deliberately exercised their discretion in charging these expenditures to expenses; Canadian has fully recovered from Colorado its expense now sought to be capitalized; and Colorado has treated its expenditures now in question as necessary operating expense to be deducted from earnings before arriving at net profits. The Commission was well within the ambit of its authority in making the deductions on the ground that it would do violence to recognized principles of equity to permit these companies at this late hour to shift their position and treat retroactively these items as capital investment upon which they are entitled to receive return. Cf. Federal Power Commission v. Natural Gas Pipeline Co. *supra;* Northwestern Electric Co. v. Federal Power Commission (1942) 43 PUR(NS) 140, 125 F(2d) 882, affirmed, 321 US 119, *supra;* Wheeling v. Natural Gas Co. (1934) 115 W Va 149, 5 PUR(NS) 471, 175 SE 339; Peoples Gas Light & Coke Co. v. Slattery (1939) 373 Ill 31, 31 PUR(NS) 193, 25 NE(2d) 482.

[14, 15] The Commission made a deduction of $366,507 from the original cost claimed by Canadian for interest during construction, and that action is challenged. Canadian recorded on its books a charge for interest during construction, computed on the basis of a construction period be-

ginning May 1, 1927, and ending October 31, 1928, and including the full amount which Canadian paid Amarillo Oil Company for the leaseholds. The Commission found that regular deliveries of gas commenced the latter part of June, 1928, and continued thereafter. The Commission determined that the construction period ended July 1, 1928, and disallowed interest after that date. The books of Wyoming showed the capitalization of interest during construction. The amount included interest on main line construction and on lateral construction. The Commission disallowed the claim in part on the ground that it represented interest computed on a proportion of the total cost of the property, estimated by the company to be in excess of that required to handle the business actually done during the period. The Commission characterized the claim as the capitalization of a fictitious and arbitrary amount after the close of the construction period, and stated that interest ceases to be a cost of the original plant when commercial operations begin. These companies were not entitled to interest after the construction period ended and they began to receive earnings. Alabama Power Co. v. McNinch (1937) 68 App DC 132, 21 PUR(NS) 225, 94 F(2d) 601.

Elaboration is unnecessary concerning the disallowance of interest on the amount which Canadian paid Amarillo Oil Company for the leaseholds in excess of the original cost to Amarillo Oil Company. We have previously said that, due to the affiliate relation between Canadian and Amarillo Oil Company, the Commission in arriving at the original cost providently included the property at the amount of the original cost to Amarillo Oil Company. That being its cost for rate-base purposes, it follows that interest on the excess could not be included in the rate base.

[16] *The Claim for Going Concern Value*—Wyoming claimed an allowance for going concern value as part of its rate base. In rejecting the claim and failing to make any allowance for that element, the Commission found that the amount claimed represented a judgment figure wholly unrelated to any costs or outlays, and was therefore deemed unjustified. It is well settled "that there is an element of value in an assembled and established plant, doing business and earning money, over one not thus advanced" and that such "element of value is a property right, and should be considered in determining the value of the property, upon which the owner has a right to make a fair return when the same is privately owned although dedicated to public use." Des Moines Gas Co. v. Des Moines, 238 US 153, 165, 59 L ed 1244, PUR1915D 577, 584, 35 S Ct 811; Denver v. Denver Union Water Co. 246 US 178, 191, 192, 62 L ed 649, PUR1918C 640, 38 S Ct 278; McCardle v. Indianapolis Water Co. *supra;* Los Angeles Gas & E. Corp. v. California R. Commission, *supra.* But even though it is an element for appropriate inclusion in the rate base, there is no constitutional exaction that it be separately stated as such and added to cost figures attributable to the physical properties. Columbus Gas & Fuel Co. v. Ohio Pub. Utilities Commission (1934) 292 US 398, 411, 78 L ed 1327, 4

PUR(NS) 152, 54 S Ct 763, 91 ALR 1403; Denver Union Stock Yard Co. v. United States (1938) 304 US 470, 479, 82 L ed 1469, 24 PUR(NS) 155, 58 S Ct 990; Driscoll v. Edison Light & P. Co. (1939) 307 US 104, 83 L ed 1134, 28 PUR (NS) 65, 59 S Ct 715. Federal Power Commission v. Natural Gas Pipeline Co. *supra.* The requirement may be satisfied if a reasonable allowance is "reflected in the other items and particularly in the appraisal of the physical assets as part of an assembled whole." Columbus Gas & Fuel Co. v. Ohio Pub. Utilities Commission, *supra,* 4 PUR(NS) at p. 161.

The amount claimed by the company was $175,000. A valuation engineer residing in New Jersey testified in support of the claim. He stated that he did not employ any mathematical formula in arriving at his conclusion as to amount, and he admitted that it was only a judgment figure. He stated with commendable candor that he reached it "just as a horse-trader looks at a horse and decides what it is worth." The record fails to indicate affirmatively whether the element was indirectly reflected to any extent in other items and in the appraisal of other properties as part of the assembled whole. But in any event, there is no basis on which to rest the conclusion that the failure of the Commission to state separately and add an amount as going concern value overstepped the limits of due process.

[17, 18] *Allocation of Cost of Service.*—The orders are assailed for failure of the Commission to make a separation or allocation of the property used in regular business from that used in unregulated business. Under § 1 of the act, *supra,* natural gas moved in interstate commerce and sold for ultimate distribution to the public is subject to regulation by the Commission, but gas transported in interstate commerce and not sold for such distribution to the public as well as gas sold intrastate is not subject to regulation. Each of these companies is engaged in both kinds of business. The Commission stated its awareness of the necessity of determining the reasonableness or unreasonableness of the rates and charges subject to its jurisdiction, observed that this required the distribution of the total costs of operations, including depreciation, taxes, and a fair return, among the various customers served, individually or by appropriate groups, and commented that to the extent that such costs allocated to sales under the jurisdiction of the Commission were less than revenues received, the rates and charges made were unjust and unreasonable, and revenues must be reduced accordingly. The Commission further stated that it did not follow from that obligation that an allocation of physical property or portions thereof must be made before any excessive returns were determined. After observing that nowhere in the entire evidence submitted by Canadian and Colorado was there a complete presentation of the entire operations, broken down between jurisdictional and non-jurisdictional operations, the Commission determined that all which could be accomplished by an allocation of physical properties could be attained by allocating costs including the return. And the Commission added

that such method was by far the most practical and business-like. Following these observations, statements, and findings, the Commission made the allocation as to each company.

Where, as here, a natural gas company is engaged in an integrated business, part of which is subject to regulation and part of which lies beyond the reach of the regulatory jurisdiction of the Commission, some separation of the property, capital, and revenue is essential in order that regulation may be confined to its permitted field. The separation may be appropriately effected by estimating or appraising the value of the property used in the regulated business and that used in the unregulated business. Smith v. Illinois Bell Teleph. Co. 282 US 133, 75 L ed 255, PUR1931A 1, 51 S Ct 65. But that method in its completeness is not always exclusive of others. The separation or allocation may be effected by application of any formula which makes the principle a working one suitably adapted to the particular circumstances. Columbus Gas & Fuel Co. v. Ohio Pub. Utilities Commission, *supra.*

The integrated properties of these companies were designed and are being used in making both direct sales and resales. The companies rely on the same transmission and other facilities in serving both classes of customers, and both classes of customers jointly share the benefit of the same facilities and gas supply. In these particular circumstances, an allocation of the cost of supplying gas service to customers cannot be said to be a fatally inappropriate or infirm means of effectuating a separateness of the property and capital used in the integrated business.

But, assuming that the requisite separation may be accomplished by an allocation of cost of service, the method used by the Commission is said to be erroneous. It is argued among other things that it assumes that all of the property is used in common in the conduct of all business, whereas a large portion is used exclusively in the regulated portion, another part is used exclusively in the unregulated portion, and only a part is used in common in both businesses; that in respect to the property which is used in common for both businesses, it fails to give consideration to the priority or preferential use of such property in supplying gas for domestic consumption as against unregulated business, and ignores actual peak demands and load factors; that it operates to minimize all costs, produces apparent cost much less than actual cost, and shifts cost from regulated to unregulated business; and that it is unsound both in fact and law. It may be conceded, without deciding, that the method is not free from defects or imperfections in all its aspects. But even so it cannot be said that as the consequence, the impact of the orders of reduction, each in its totality, produces arbitrary results or oversteps the bounds of due process. Therefore the orders are not open to further judicial inquiry on these grounds. Federal Power Commission v. Natural Gas Pipeline Co. *supra;* Federal Power Commission v. Hope Nat. Gas Co. *supra.*

[19] *Depletion, Depreciation and Amortization*—The companies introduced evidence relating to accrued de-

preciation. It was based upon observed per cent condition of the property. Accrued depletion as determined by Canadian was based on estimates of original and remaining gas reserves. The evidence of the staff of the Commission treated accrued and annual allowances for depreciation on the basis of the application of the service-life principle. The Commission observed that if the theory of observed per cent condition of the property were carried out consistently, it might be considered as having some elements of reasonableness; that the small observed depreciation would find its counterpart in an equivalently small annual charge to operating expenses to cover the yearly added amount of observed depreciation; that this was not done in the estimates submitted by these companies; that, instead, in calculating expenses chargeable to the consumer high depreciation charges were computed, and in computing return to the company a small deduction from the cost of plant was computed. And after full consideration, the Commission adopted the service-life principle for determining annual and accrued depreciation and the production method for determining annual and accrued depletion of production facilities.

Section 6 of the act, *supra,* empowers the Commission to determine the depreciation in property used by a natural gas company, but it fails to prescribe the method to be used in the discharge of that function. Depreciation represents the loss, not restored by current maintenance, causing the ultimate retirement of the property. The factors entering into it usually are wear and tear, decay, inadequacy, and obsolescence. And in determining reasonable rates to be charged by a public utility, it is proper to include in the operating expenses an allowance for consumption of capital in order that the integrity of the investment in the service may be maintained. Lindheimer v. Illinois Bell Teleph. Co. (1934) 292 US 151, 78 L ed 1182, 3 PUR(NS) 337, 54 S Ct 658.

As we understand, the Commission in arriving at accrued depreciation determined the amount to be deducted from original cost on the age-life basis by applying the straight life service method to the property. The contention that the testimony of valuation engineers who examined the property and made estimates in respect of its condition should have been accepted in preference to calculations based on averages and assumptions finds its genesis in Pacific Gas & E. Co. v. San Francisco, 265 US 403, 68 L ed 1075, PUR1924D 817, 44 S Ct 537, and McCardle v. Indianapolis Water Co. *supra.*

But there is no basis in this record on which it can be concluded that the determination of depreciation in the manner adopted by the Commission will result in any of these orders in its entirety causing a failure to restore the capital investment at the end of the term, and therefore no deprivation of property is involved. Once more, in the absence of impingement upon due process, review is ended. Federal Power Commission v. Natural Gas Pipeline Co. *supra;* Federal Power Commission v. Hope Nat. Gas Co. *supra.*

[20] *Gas Reserves*—In connection

with its determination of annual allowances for depreciation and depletion, the Commission found that Canadian's remaining recoverable gas reserves as of December 31, 1939, were not less than 2,800,000,000 thousand cubic feet at 14.65 pounds pressure base and an abandonment pressure of approximately 50 pounds; and that at the then present and expected future rate of production of about 55,000,000 thousand cubic feet per year, such reserves would last fifty-three years. The finding is characterized as arbitrary, capricious, and without any basis in the record. It is said that the reserves were much less in amount and that as a source of supply for long distance pipe lines they will not extend in width beyond 1956. The field is about 125 miles long and varies from 10 to 40 miles. It comprises approximately 1,500,000 acres, of which about 1,000,000 acres produce sweet gas, and some 500,000 acres produce sour gas. Oil is produced in a portion of the field. Natural gas was discovered in 1918, on acreage now owned by Canadian; and at the time of the hearings in these proceedings there were about 1,650 wells producing gas only, and about 4,200 wells producing both oil and gas.

The two methods most frequently used in estimating recoverable gas reserves are the rock pressure decline method and the sand thickness porosity method. Using the pressure decline method, an experienced geologist and petroleum engineer on the staff of the Commission testified at length. He estimated that the reserves for the entire field were 22,420,000,000 thousand cubic feet, and that those of Canadian were 3,645,213,000 thousand cubic feet. For the purpose of determining the true average or equilibrium pressure prevailing throughout the field, he divided the field into areas of comparatively equal pressures, called quadrants, and made an estimate for each quadrant. His estimate in the aggregate was the sum of his estimates for the several quadrants. A scientific article published in 1933 was introduced in evidence in which the recoverable reserves in the field were estimated to be 16,100,000,000 thousand cubic feet. Two qualified experts testified for Canadian. One used the sand thickness porosity method, and he estimated that the reserves in the field amounted to 9,532,027,596. The other used the open flow method which is a variation of the sand thickness porosity method, and his estimate of the field was 8,840,132,111 thousand cubic feet. And there was much other evidence having bearing upon the question. The Commission found itself unable to accept in toto any of the estimates. The Commission observed that the pressure decline method is recognized as a satisfactory method of estimating gas reserves in fields that are depleted as much as 15 per cent or more and where reliable pressure and production data are available; that the Texas Panhandle Field met these qualifications; that it was a well-developed field; and that the pressure and production records maintained by the Railroad Commission of that state were adequate and satisfactory. The Commission found that the pressure decline method was to be desired over the methods used by the witnesses for the company; that the estimates of the witnesses for the company were not

founded on proper data and must be considered essentially unreliable; that if the method of averaging quadrants was incorrect, it favored the company position of lower reserves; that the acreage of the company was among the very best in the entire field; and that after weighing all pertinent facts of record and making due allowance for the criticisms of the estimate submitted by the Commission staff, the recoverable reserves were found to be not less than 2,800,000,000 thousand cubic feet of gas.

The rock pressure decline method of estimating recoverable reserves of natural gas is not only accepted practice among mining engineers but it has been accorded judicial recognition. Dayton Power & Light Co. v. Ohio Pub. Utilities Commission (1934) 292 US 290, 78 L ed 1267, 3 PUR (NS) 279, 54 S Ct 647. It lay within the discretion of the Commission to select that method as the most satisfactory and reliable means of determining the reserves of Canadian. And the Commission was not required to accept at face value the opinion evidence of the witnesses who testified as experts in respect to volume. The weight to be given to their evidence was a matter for the appraisal and judgment of the Commission, in the light of the circumstances. Existing volume, pressure differentials and consequent drainage, and other recovery factors should be given consideration in arriving at a final conclusion concerning the reserves. But it nowhere appears that the Commission failed appropriately to weigh these elements.

As has already been said, § 19(b) of the act, *supra*, provides that a finding of fact made by the Commission shall be conclusive on review if it is supported by substantial evidence. Congress thus committed to the Commission the function of weighing evidence, drawing inferences from the facts and circumstances established, and choosing between conflicting inferences. And a court is not free to substitute its view of the facts for that of the Commission. The underlying considerations which actuated Congress in vesting that power in the Commission are clear. The Commission often deals with subjects which are specialized, technical, and complex. It is relatively better staffed for its task than are the courts. And its members frequently bring to the discharge of their duties rich experience in those particular fields. The determination of the recoverable reserves of this company necessarily involved specialized and technical factors. The evidence relating to the question extends to great lengths. No useful end would be served by a detailed analysis of it. We think the finding is supported by substantial evidence and therefore is not vulnerable to the charge of lacking basis in the record.

[21–23] *Fair Rate of Return*— The evidence submitted by the companies relating to a fair annual return upon the rate base varied in amount from 8 per cent to 9.17 per cent, while that of the Commission staff was 6½ per cent. The Commission fixed 6½ per cent for all three companies. The Commission stated in that connection that there was no exact formula for determining a reasonable rate of return; that in the final analysis the rate must be the best judgment of the

Commission, founded upon the evidence and guided by the basic facts required by law to be considered; that consideration must be given to the return earned by like investments which are attended by corresponding risks and uncertainties in the same vicinity over the same period of time; that Canadian had a long-term and essentially cost of service contract with its affiliate, Colorado; that the sales of Colorado and Wyoming were also principally to subsidiaries or affiliates and to stable markets; that Colorado's principal industrial sales were also to an affiliate—Colorado Fuel and Iron Corporation; and that all these facts materially reduced basic business risks that might be present under other circumstances.

The rate of return which will constitute just compensation depends upon the circumstances. A public utility is entitled to such rates as will permit it to earn a return on the value of its property devoted to the convenience of the public substantially equal to that generally being earned in that area by other business enterprises which are attended by corresponding characteristics, including uncertainties, risks, hazards, and other elements affecting the operations. The return should be sufficient in amount to assure confidence in the financial soundness of the utility, and to enable it under efficient management to maintain its credit. Bluefield Water Works & Improv. Co. v. West Virginia Pub. Service Commission, 262 US 679, 67 L ed 1176, PUR1923D 11, 43 S Ct 675. But no formula can be laid down which will apply uniformly in all cases or to all kinds of utilities. That which is fair for one may be quite inadequate for another, depending upon the difference in circumstances. And the ascertainment of a fair return in a given case is a matter incapable of exact mathematical demonstration. It is one of reasonable approximation having its basis in a proper consideration of all relevant facts. Willcox v. Consolidated Gas Co. (1909) 212 US 19, 53 L ed 382, 29 S Ct 192, 48 LRA (NS) 1134, 15 Ann Cas 1034; United R. & Electric Co. v. West, 280 US 234, 74 L ed 390, PUR1930A 225, 50 S Ct 123.

Making application of these principles, and taking into consideration the history of these companies, their relations and opportunities, their position for future financing, the stability of demand for their product, and other relevant factors, we think that a return of 6½ per cent on the rate base as fixed by the Commission is not so inadequate as to amount to confiscation. Federal Power Commission v. Natural Gas Pipeline Co. *supra;* Federal Power Commission v. Hope Nat. Gas Co. *supra.*

Finally, the Commission made allowances for working capital and additions to plant of all three companies, and these were attacked for insufficiency in amount; the Commission rejected some claims, and the companies predicate error on that action; and the Commission made certain adjustments of which the companies complain. We do not discuss these seriatim. To do so would only extend this opinion, without adding anything of value to the accelerating accumulation of judicial utterances. The Commission was empowered to make pragmatic adjustments for which the par-

ticular circumstances call. Federal Power Commission v. Natural Gas Pipeline Co. *supra.* On the whole record, we are unable to say that any of these orders in its total effect produces any arbitrary result or does violence to due process. Therefore they must stand. Federal Power Commission v. Natural Gas Pipeline Co. *supra;* Federal Power Commission v. Hope Nat. Gas Co. *supra.*

The orders are severally affirmed.

UNITED STATES CIRCUIT COURT OF APPEALS, EIGHTH CIRCUIT

Panhandle Eastern Pipe Line Company et al.

v.

Federal Power Commission et al.

— F(2d) —
June 6, 1944

PETITION *to review and set aside order of Federal Power Commission requiring interim reduction in rates for natural gas sold in interstate commerce for resale; order affirmed. For Commission decision, see (1942) 45 PUR(NS) 203.*

Appeal and review, § 56 — Grounds for reversal — Exclusion of evidence — Reproduction cost.

1. Rejection of evidence of reproduction cost or of market or replacement value, in a proceeding before the Federal Power Commission to reduce natural gas rates, does not amount to a denial of due process requiring a remand of the proceeding to the Commission, where the Commission has stated that it regards such evidence as valueless under the circumstances of the case and considers that the legitimate cost or prudent investment formula is alone applicable, p. 30.

Rates, § 13 — Jurisdiction of Federal Power Commission — Unregulated business — Valuation of leaseholds.

2. The Federal Power Commission does not erroneously assume jurisdiction over a natural gas company's production and gathering of natural gas, excluded from Commission jurisdiction by § 1(b) of the Natural Gas Act, 15 USCA § 717(b), by including in the rate base the depreciated book cost of such facilities instead of their present enhanced market value, p. 33.

Rates, § 199 — Unit for rate making — Classes of service — Resale service — Industrial customers.

3. An order of the Federal Power Commission fixing rates for the sale of gas in interstate commerce for resale is not invalid because of the Commission's failure to make an allocation or segregation of revenues derived from

direct sales of gas to customers for their own use, where the Commission has not fixed rates for such direct sales and where there is a substantial basis for the Commission conclusion that it is unnecessary to make such a segregation of revenues attributable to sales not subject to regulation and that, if a segregation were made, it would not materially affect the result, p. 34.

Appeal and review, § 28.4 — Conclusiveness of Commission decision — Federal Power Commission order — Return allowance.

4. An order of the Federal Power Commission reducing rates for wholesale natural gas service, attacked on the ground that the return allowed by the Commission is unjust, unreasonable, or confiscatory, must be affirmed unless it is shown that the order is unreasonable in its consequences because the return allowed is insufficient to enable the company to meet operating expenses, pay interest on bonds and dividends on stock, maintain credit, and attract capital, or is clearly out of line with the returns on investments in enterprises involving comparable risks; the court cannot substitute its judgment for that of the Commission with respect to the debatable question whether the return allowed is sufficient to attract investors, p. 36.

(RIDDICK, C.J., dissents.)

APPEARANCES: D. H. Culton, Robert J. Bulkley, Arthur G. Logan, and John S. L. Yost (with whom Glenn W. Clark and Ira Lloyd Letts were on the briefs) for petitioners; Harry S. Littman, Assistant General Counsel, Federal Power Commission, and Harold Goodman, Special Assistant Prosecuting Attorney, county of Wayne, Michigan (with whom Charles V. Shannon, General Counsel, Federal Power Commission, Robert L. Russell, Attorney, Federal Power Commission, Paul E. Krause, Corporation Counsel, City of Detroit, Michigan, James H. Lee, Assistant Corporation Counsel, city of Detroit, Michigan, William E. Dowling, Prosecuting Attorney, county of Wayne, Michigan, and Park Chamberlain, Henry A. Montgomery and A. V. McRee, counsel for respondent Michigan Consolidated Gas Company, were on the briefs) for respondents.

Before Sanborn, Woodrough, and Riddick, Circuit Judges.

SANBORN, CJ., delivered the opinion of the Court: The petitioners, pursuant to § 19(b) of the Natural Gas Act,[1] seek a review and reversal of an interim rate reduction order made by the Federal Power Commission on September 23, 1942, 45 PUR(NS) 203. The case was argued and submitted at the May, 1943, term of this court. Decision was deferred awaiting the determination by the Supreme Court of the United States of the cases of Federal Power Commission v. Hope Nat. Gas Co. and Cleveland v. Hope Nat. Gas Co. After the opinion in those cases was rendered (January 3, 1944) 320 US 591, 88 L ed 276, 51 PUR(NS) 193, 64 S Ct 281, a resubmission of the instant case at the March, 1944, term of this court, upon supplemental briefs and a reargument, was ordered, so that we might have the benefit of the views of counsel as to

[1] Act of June 21, 1938, Chap 556, 52 Stat 821, 831; 15 USCA § 717r(b).

the impact of the opinion of the Supreme Court in the Hope Natural Gas Company Cases, *supra,* upon the questions here involved.

The petitioners are Panhandle Eastern Pipe Line Company and its wholly owned subsidiaries, Illinois Natural Gas Company and Michigan Gas Transmission Corporation. Their separate holdings constitute a single system for the gathering, transportation, and sale of natural gas, and appropriately may be regarded and referred to as though jointly owned and operated by the petitioners. The respondents are Federal Power Commission, city of Detroit, Michigan, county of Wayne, Michigan, Michigan Consolidated Gas Company, and Michigan Public Service Commission.

The petitioners gather, through production and purchase, natural gas in the Amarillo gas field of the Texas Panhandle and in the Hugoton gas field in southwestern Kansas. This gas is transported to markets through a main transmission pipe line which extends for a distance of about 860 miles from a point in Moore county, Texas, across the states of Oklahoma, Kansas, Missouri, and Illinois, to a point near Dana, Indiana, close to the Illinois-Indiana boundary, where the line connects with a transmission pipe line extending from Dana, Indiana, to a point near Zionsville, Indiana, where the line branches. One branch runs to Detroit, Michigan, and the other to Muncie, Indiana. Lateral pipe lines extend from petitioners' main transmission line in Illinois. Through their system of pipe lines, natural gas is marketed by the petitioners, mainly for resale, in Texas, Kansas, Missouri, Illinois, Indiana, Michigan, and Ohio. The petitioners serve more than 200 communities and upwards of 700,000 consumers of gas and have the longest natural gas pipe line in existence.

On February 28, 1941, the city of Detroit and the county of Wayne, Michigan, filed a petition with the Federal Power Commission, asserting that the rates and charges of petitioners' Panhandle Eastern Pipe Line Company, and Michigan Gas Transmission Corporation for natural gas sold to Michigan Consolidated Gas Company, for resale in that city and county, were unjust, unreasonable, and unduly discriminatory. On May 22, 1941, the Commission, of its own motion, instituted an investigation of the wholesale rates and charges of those two petitioners for natural gas. The investigation was later enlarged to include the Illinois Natural Gas Company. The two proceedings before the Commission, known as Docket No. G-200 and Docket No. G-207, were consolidated for hearing. The Michigan Consolidated Gas Company and the Michigan Public Service Commission were permitted to intervene. The hearing was begun on July 15, 1941, before a trial examiner, and continued from time to time thereafter until April 23, 1942. More than 10,000 pages of testimony was taken, and more than 250 exhibits were received in evidence.[2]

On April 23, 1942, the trial ex-

[2] In describing the hearing, the Commission in its opinion states:

"The complainants [city of Detroit and county of Wayne, Michigan] offered one witness in support of their petition. The respondents [petitioners in this court] offered twenty-four witnesses who presented a complete rate case including, among other matters, evidence

aminer adjourned the hearing pending the disposition of motions filed by counsel for the Federal Power Commission and by the city of Detroit, the county of Wayne, and Michigan Consolidated Gas Company for an interim order directing a reduction of petitioners' rates pending further hearing and investigation. It appears that the complainants before the Commission were contending that petitioners' rates should immediately be reduced by $6,800,479 per annum, and that counsel for the Commission and the Michigan Consolidated Gas Company were urging a rate reduction of approximately $5,500,000 per annum.

The Commission filed its opinion on September 23, 1942, *supra*. It took the year 1941 as the appropriate test period. It found that the "Actual Cost of Gas Plant in Service at December 31, 1941," was $78,814,292; that accrued depreciation was $12,596,987; that the actual cost less accrued depreciation was $66,217,305. To this amount the Commission added $920,000 for working capital; and this produced a rate base of $67,137,305. The Commission determined that a fair annual rate of return was 6½ per cent of that amount, or $4,363,925; that the net operating revenue of petitioners for 1941 ("Available for Return") was $9,458,309, which was $5,094,384 in excess of the return found by the Commission to be reasonable. The Commission concluded that to that extent the rates and charges of petitioners were unjust, unreasonable, unlawful, and violative of the provisions of the Natural Gas Act. The order of the Commission, filed September 23, 1942, required that:

"The rates and charges made, demanded, or received by the respondents [petitioners here] for or in connection with their transportation and sale of natural gas in interstate commerce for resale for ultimate public consumption shall be so reduced as to reflect, when applied to respondents' (petitioners') 1941 transportation and sales, a reduction of not less than $5,094,384 per annum below their 1941 consolidated gross operating reveuense of $17,789,573; . . ." (45 PUR(NS) at p. 223.)

The petitioners contend that the order of the Commission is invalid because: (1) The trial examiner excluded relevant and material evidence of the value of their property; (2) the Commission erred in assuming jurisdiction over the petitioners' production and gathering of natural gas; (3) the Commission erred in assuming jurisdiction over the petitioners' revenues from direct sales of gas to customers for their own use; (4) the return allowed by the Commission is unjust, unreasonable, and confiscatory.

These contentions will be considered in their order.

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of operations, revenues, expenses, book cost, and original cost of their properties, 'going concern value,' working capital, gas reserves, depreciation, rate of return, future capital expenditures, and allocation of costs. Counsel for the Commission called five witnesses whose testimony related principally to depreciation, a write-up, historical earnings on average net investment, working capital, rate of return, and allocation of costs. The interveners [Michigan Public Service Commission and Michigan Consolidated Gas Company] presented no witnesses. The witnesses were tendered to all parties for cross-examination and full opportunity was given to present rebuttal evidence." (45 PUR(NS) at pp. 206, 207.)

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[1] The petitioners state that the evidence offered by them and rejected by the trial examiner showed that the present reproduction or replacement cost of Panhandle Eastern's physical properties as of June 30, 1941, less observed and determined depreciation, was $7,892,174 greater than original cost less book reserves; that the present reproduction cost of the physical properties of the Michigan Gas Transmission Corporation, similarly ascertained, was $2,933,808 in excess of actual cost less book reserves; and that Panhandle Eastern's leaseholds have a present market value $7,384,626 greater than the net investment therein as shown by its books. The rejected evidence tended to establish a reproduction cost or replacement value, less observed depreciation, for all of the petitioners' property of $83,957,083.

The ruling of the trial examiner excluding this evidence was approved by the Commission in its opinion of September 23, 1942, *supra*. The reasons given by the Commission for its approval of the exclusion of the evidence of reproduction cost are, in substance: that § 6(a) of the Natural Gas Act, 15 USCA § 717e(a), provides that: "The Commission may investigate and ascertain the actual legitimate cost of the property of every natural-gas company, the depreciation therein, and, when found necessary for rate-making purposes, other facts which bear on the determination of such cost or depreciation and the fair value of such property"; that there is no need for estimating the cost of petitioners' property; that petitioners' cost records are accurate, complete and properly maintained; that their plant was constructed in recent years and there is no difficulty in ascertaining from petitioners' books the actual legitimate cost of or investment in their property; that the Commission has held that reproduction cost evidence is inherently fallacious and should be disregarded under the statute; that the defects of such evidence have been pointed out by the Supreme Court of the United States; that it seems evident that Congress recognized the fallacy of the reproduction cost doctrine and sought by the enactment of § 6(a) to do away with that concept of rate making; that the Supreme Court, in Federal Power Commission v. Natural Gas Pipeline Co. (1942) 315 US 575, 586, 86 L ed 1037, 42 PUR(NS) 129, 138, 62 S Ct 736, said:

"The Constitution does not bind rate-making bodies to the service of any single formula or combination of formulas. Agencies to whom this legislative power has been delegated are free, within the ambit of their statutory authority, to make the pragmatic adjustments which may be called for by particular circumstances"; that, in a concurring opinion in that case, Justices Black, Douglas, and Murphy said (p 606 of 315 US, 42 PUR(NS) at p. 150):

"As we read the opinion of the court, the Commission is now freed from the compulsion of admitting evidence on reproduction cost or of giving any weight to that element of 'fair value.' The Commission may now adopt, if it chooses, prudent investment as a rate base—the base long advocated by Mr. Justice Brandeis.

And for the reasons stated by Mr. Justice Brandeis in the Southwestern Bell Telephone Case (Missouri ex rel. Southwestern Bell Teleph. Co. v. Public Service Commission) 262 US 276, 67 L ed 981, PUR1923C 193, 43 S Ct 544, 31 ALR 807, there could be no constitutional objection if the Commission adhered to that formula and rejected all others"; that the Commission has been authorized by Congress to determine in the first instance the actual legitimate cost of utility properties and the depreciation therein; that the rate base is such cost less existing depreciation, plus necessary working capital; that it is certain from the record that no necessity exists requiring consideration of other facts in determining a rate base in these proceedings.

The petitioners assert that the power granted to the Commission under the Natural Gas Act to reduce rates can be exercised only if the Commission, after a full and fair hearing, shall determine that existing rates are unjust, unreasonable, unduly discriminatory or preferential [§ 5(a) of the Act, 15 USCA § 717d]; that the duties of the Commission are of a quasi judicial character; that it must receive and consider any evidence that might or could be determined by a fair-minded person to be material in reaching a determination of the ultimate fact, namely, a fair price for the commodity sold or the service rendered; that, in determining the just and reasonable return to be allowed, any and all evidence which is relevant must first be admitted and considered.

Apparently no court has as yet ruled that the Federal Power Commission may, in a rate hearing, refuse to receive and consider evidence of replacement or reproduction cost of the properties of a company subject to the Natural Gas Act. It was held, in effect, in the case of Federal Power Commission v. Natural Gas Pipeline Co. *supra,* 315 US at pp. 586, 606, 607, and in the Hope Natural Gas Company Cases, *supra,* 320 US at pp. 602–605, that the Commission was not bound to give weight to such evidence in determining rates.

Nevertheless, the question whether the refusal of the Commission to receive the evidence of reproduction or replacement cost or value offered by the petitioners amounted to a denial of due process is not free from doubt. That § 6(a) of the Natural Gas Act authorizes the Commission to reject evidence which it regards as not "necessary for rate-making purposes" is questionable. There is little to indicate that Congress, in enacting § 6 (a), intended to change the law of evidence. That section apparently relates to the investigation and ascertainment by the Commission of material facts relevant to the question of "fair value," and probably has no controlling effect upon the admissibility of evidence at a rate hearing.

In Donnelly Garment Co. v. National Labor Relations Board (1941) 123 F(2d) 215, 224, this court said: "That a refusal by an administrative agency such as the National Labor Relations Board to receive and consider competent and material evidence offered by a party to a proceeding before it, amounts to a denial of due process is not open to debate."

And:

" . . . That the board would or might have reached no different con-

clusion had the rejected evidence been received, is entirely beside the point. The truth is that a controversy tried before a court or before an administrative agency is not ripe for decision until all competent and material evidence proffered by the parties has been received and considered."

This is a correct statement of the law. The respondents do not contend to the contrary, but deny the applicability of the rule in the instant case. The evidence rejected in the Donnelly Garment Company Case was competent, relevant and material. It bore directly upon the issue being tried by the National Labor Relations Board, namely, whether an independent union of the employees of the Donnelly Garment Company was company dominated or not. The basis for rejecting the evidence in that case was, in substance, that it was not worthy of belief and would not be credited.

The case of Pittsburgh Plate Glass Co. v. National Labor Relations Board (1941) 313 US 146, 85 L ed 1251, 61 S Ct 908, indicates that the rejection of relevant evidence by an administrative agency does not always constitute a denial of due process. In that case the question before the board was whether all of the employees at all of the plants of the Glass Company constituted an appropriate unit for collective bargaining or whether the employees at the Crystal City plant of the company, who had an independent union of their own and wanted to have their own bargaining representative, should be considered a separate unit. The board determined to disregard the wishes of the employees at the Crystal City plant, and excluded evidence thereof. The board had a wide discretion with respect to the selection of the appropriate unit for the purposes of collective bargaining. The Glass Company contended that, in rejecting relevant evidence as to the wishes and situation of the employees at the Crystal City plant, the board had denied a fair hearing. This court, on review of the board's order, thought that, under the circumstances of that case, the rejection of the evidence did not amount to a denial of due process. (Pittsburgh Plate Glass Co. v. National Labor Relations Board (1940) 113 F(2d) 698, 703). The Supreme Court, *supra,* affirmed, saying (at p. 163 of 313 US):

"Further, if we consider all the contentions about exclusion of evidence together instead of separately, we do not find that in the aggregate the evidence excluded could have materially affected the outcome on the 'appropriate unit' issue, in the light of the criteria by which the Board determined that issue."

Mr. Justice Stone, in expressing his dissent and that of Mr. Chief Justice Hughes and Mr. Justice Roberts, said in conclusion (at p. 177 of 313 US):

"One of the most important safeguards of the rights of litigants and the minimal constitutional requirement, in proceedings before an administrative agency vested with discretion, is that it cannot rightly exclude from consideration facts and circumstances relevant to its inquiry which upon due consideration may be of persuasive weight in the exercise of its discretion. Interstate Commerce Commission v. Chicago, R. I. & P. R. Co. (1910) 218 US 88, 102, 54 L ed 946, 954, 30 S Ct 651; St. Joseph

Stock Yards Co. v. United States (1936) 298 US 38, 75, 78, 80 L ed 1033, 1053, 14 PUR(NS) 397, 56 S Ct 720; Ohio Bell Teleph. Co. v. Ohio Pub. Utilities Commission (1937) 301 US 292, 304, 305, 81 L ed 1093, 1101, 18 PUR(NS) 305, 57 S Ct 724."

The majority opinion of the Supreme Court in the Pittsburgh Plate Glass Company Case indicates that where an administrative agency has authority to choose the criteria determinative of an issue of fact, it may reject evidence which has no materiality in view of the criteria adopted, and that, under those circumstances, the rejection of such evidence is not a denial of due process.

The Federal Power Commission is not bound "to the service of any single formula or combination of formulas" (Federal Power Commission v. Natural Gas Pipeline Co. *supra,* at p. 586 of 315 US, 42 PUR (NS) at p. 138) in fixing rates. It follows that the Commission may, for rate-making purposes, select any permissible formula or combination of formulas which it considers appropriate under the circumstances. While one may reasonably believe that the Commission should in any case receive all evidence which is relevant and material under any theory of rate making, we think it cannot be said, in view of the majority opinion in the Pittsburgh Plate Glass Company Case, *supra* (313 US 146), that the rejection of evidence of reproduction cost or of market or replacement value in the case before us amounted to a denial of due process requiring a remand of the proceeding to the Commission. It is, of course, apparent from the opinion of the Commission that the remand of this proceeding so that the evidence offered and rejected might be received, considered, and then disregarded by the Commission, would be a useless formality. The Commission has stated that it regards such evidence as valueless under the circumstances of this case, and considers that the legitimate cost or prudent investment formula is alone applicable. While the importance of requiring administrative agencies to observe the minimal requirements of due process cannot be overemphasized, practical considerations are not to be completely ignored in determining whether a case shall be remanded, where the rights of a party have not been prejudiced by the rejection of evidence which, though admissible, is immaterial in the light of permissible criteria adopted by an agency for determining the issue before it. Moreover, for the purpose of review, this court may assume that the proffered evidence, if admitted, would have proved all that the petitioners claim for it, namely, that the reproduction cost of their property, less observed depreciation, on June 30, 1941, was $83,957,083.

2

[2] The second question is whether the Commission erroneously assumed jurisdiction over the petitioners' production and gathering of natural gas.

Section 1(b) of the Natural Gas Act, 15 USCA § 717(b) reads:

"The provisions of this act shall apply to the transportation of natural gas in interstate commerce, to the sale in interstate commerce of natural gas for resale for ultimate public con-

sumption for domestic, commercial, industrial, or any other use, and to natural-gas companies engaged in such transportation or sale, but shall not apply to any other transportation or sale of natural gas or to the local distribution of natural gas or to the facilities used for such distribution or to the production or gathering of natural gas."

The basis for the petitioners' assertion that the Commission unlawfully exercised jurisdiction over their facilities used in the production of natural gas seems to be that the inclusion in the rate base of the depreciated book cost of such facilities, instead of their present enhanced market value, was erroneous and amounted to an abuse of power.

Petitioners claimed before the Commission, and offered to prove, that leaseholds which were carried on their books at less than $1,000,000 had a market value of about $8,400,000. In their reply brief on reargument, petitioners concede the right of the Commission to value their production property, but state that—"their objection to the Commission's procedure is that it refused to admit *evidence from which such a valuation could have been made.* Having refused to admit that evidence, it erred in entering an order which, in effect, limits petitioners' earnings from their production and gathering properties to a return far below that which would have resulted had the Commission determined the value of the gas through a consideration of the present value of petitioners' production and gathering properties. The entering of this arbitrary order after the exclusion of evidence from which the *value* of the gas at the point where it enters the interstate pipe line could have been determined necessarily constituted an exercise of jurisdiction over production and gathering, a jurisdiction expressly withheld from the Commission."

That is saying, in effect, that the jurisdiction of the Commission extends to making a valuation of petitioners' gathering and production facilities, for rate-making purposes, provided that the Commission does not use a method or apply a formula which results in an underestimate of the value of the gas produced. If there is an infirmity in the Commission's determination of the amount which should be included in the rate base as the cost or value of such facilities, we think the infirmity arises from the method used in making the valuation, and not from any lack of jurisdiction. Since the Commission was not obliged to adopt reproduction or replacement cost in determining "fair value" for rate-making purposes, but could adopt the actual cost or prudent investment formula as a basis, it is impossible for us to say that the Commission exceeded its power in not including in the rate base the present market value of petitioners' leaseholds. The Commission could, no doubt, have increased the rate base by the enhancement in market value of the leaseholds, but we think it was not compelled to do so.

3

[3] The third question is whether the order is invalid because of the Commission's failure to make an allocation or segregation of revenues de-

rived from direct sales of gas to customers for their own use.

Concededly, the Commission has not fixed the petitioners' rates for such sales, and has only prescribed reduced rates for interstate sales of natural gas for the purpose of resale. The petitioners assert, however, that the necessary effect of the Commission's order is to reduce their rates and revenues on all sales and to deprive them of substantial profits from direct sales, and amounts to an assumption of jurisdiction over a part of their business which the Commission may not regulate.

The reasons given by the Commission for declining to make an allocation or segregation of revenues are that the direct sales are made to nineteen industrial customers on an interruptible basis, and at prices fixed by competition with other fuels; that no plant capacity has been provided for the direct industrial customers; that deliveries to them are made only when there is excess capacity not required by wholesale customers; that $128,848 of the entire investment in plant (less than one-sixth of one per cent) is used exclusively in the service of the direct sales; that petitioners treat their entire business as a unit and make no segregation of costs or profits as between the two classes of sales; that the incidental direct industrial business of petitioners is in reality a by-product of the wholesale business, comparable to the petitioners' gasoline extraction business; and that there is no showing that the direct sales are so distinct and separate from the general wholesale business that the two cannot be considered together.

The respondents deny that an allocation or segregation of the revenue and expenses attributable to direct sales would have materially affected the result or that the Commission's order reduces the petitioners' income from direct sales. The respondents contend that the order of the Commission gives the petitioners more than the return on direct sales which they contended in their evidence they were entitled to receive. The petitioners, however, assert that the order of the Commission takes from them approximately one-half of the revenue of $1,000,828 a year derived from direct sales.

The record indicates that the 1941 revenue of petitioners from direct industrial sales less expenses, but before Federal income taxes, was $1,000,828; that a fair allocation of this revenue would be to treat one-half of it as derived from direct sales; and that the net amount properly attributable to that nonregulated portion of the business would be $319,656 ($500,414 return less $180,758 income taxes at 1941 tax rates). Under the Commission's order, the petitioners are allowed a 6½ per cent return ($4,363,925) on their entire business. Under the method of allocation proposed by an expert witness of the Commission, $4,017,878 of the return would be attributable to sales at wholesale (subject to regulation), and $346,047 to direct industrial sales (not subject to regulation). There is in the record a substantial basis for the Commission's conclusion that, in determining reasonable rates for sales of natural gas subject to regulation, it was unnecessary to make a segregation of revenues attributable to sales not subject to regulation, and that, if a seg-

regation had been made, it would not materially have affected the result.

In determining whether the wholesale rates of a natural gas company subject to the act are unreasonable, the Commission is, no doubt, obligated to give appropriate consideration to the fact that the revenues of the company derived from direct sales to customers are not subject to regulation. A failure of the Commission to give appropriate effect to that fact, unless arbitrary or capricious, does not, we think, deprive the Commission of its jurisdiction to make a rate order with respect to sales which are subject to regulation. Jurisdiction to decide a doubtful question of fact includes jurisdiction to decide it either correctly or incorrectly. Pittsburgh Plate Glass Co. v. National Labor Relations Board (1940) 113 F(2d) 698, 701. The adjustments made necessary by reason of the fact that certain of the sales and revenues of the petitioners are not subject to regulation are, we think, "pragmatic adjustments . . . called for by particular circumstances" (Federal Power Commission v. Natural Gas Pipeline Co. [1942] 315 US 575, 586, 86 L ed 1037, 42 PUR (NS) 129, 62 S Ct 736), which the Commission has power to make.

4

[4] The last question for consideration is whether the return allowed by the Commission has been shown to be unjust, unreasonable, or confiscatory.

The opinion of the Supreme Court in the Hope Natural Gas Company Cases (1944) 320 US 591, 88 L ed 276, 51 PUR(NS) 193, 64 S Ct 281, indicates to us that, aside from questions relating to procedural due process and to jurisdiction, a reviewing court may interest itself only in the effect of the Commission's order. The court cannot concern itself with the Commission's choice of formulae or the propriety of the methods employed by it in reaching its conclusion, but only with the consequences of the order made. If the effect of the order is to deny to the utility a return sufficient reasonably to meet its necessities and to enable it to continue to render adequate public service, the order is arbitrary and confiscatory and may be set aside. It seems apparent that the Supreme Court is presently of the opinion that, within broad limits, the Federal Power Commission should be freed from judicial interference in regulating rates of natural gas companies. It is evidently no longer necessary for a reviewing court to consider many of the doubtful and debatable questions which ordinarily arise in every rate case, such as: whether replacement or reproduction cost less observed depreciation, or prudent investment, or historical cost, shall be used as a rate base; whether proper allocation of revenues which are subject to regulation and revenues which are not subject to regulation has been made by the Commission; whether the cost or value of items of property which, for reasons deemed sufficient by the Commission, have been excluded by it from the rate base should have been included; whether the Commission has given due consideration to every pertinent fact; and whether the reasoning of the Commis-

sion which underlies its final determination is sound or unsound.[3]

The order of the Commission must be affirmed unless the petitioners have made a convincing showing that it is unreasonable in its consequences because the return allowed is insufficient to enable them to meet their expenses of operation, to pay interest on their bonds and dividends on their stock, to maintain their credit, and to attract capital, or is clearly out of line with the returns on investments in enterprises involving comparable risks.

In the Hope Natural Gas Company Cases, *supra*, original investment or actual cost had been estimated at about $70,000,000, of which $17,000,000 had been charged to operating expenses. The Commission found "actual legitimate cost" to be $51,975,-416. From this it deducted $22,328,-016 for depletion and depreciation. It added $1,392,021 for future net cap-

[3] In Federal Power Commission v. Hope Nat. Gas Co. *supra*, 320 US at pp. 602, 603, 51 PUR(NS) at pp. 200, 201, the Supreme Court said:

"We held in Federal Power Commission v. Natural Gas Pipeline Co. *supra* [315 US 575], that the Commission was not bound to the use of any single formula or combination of formulae in determining rates. Its rate-making function, moreover, involves the making of 'pragmatic adjustments,' Id. at p. 586. And when the Commission's order is challenged in the courts, the question is whether that order 'viewed in its entirety' meets the requirements of the act. Id. at p. 586. Under the statutory standard of 'just and reasonable' it is the result reached not the method employed which is controlling. Cf. Los Angeles Gas & E. Corp. v. California R. Commission, 289 US 287, 304, 305, 314, 77 L ed 1180, PUR 1933C 229, 53 S Ct 637; West Ohio Gas Co. v. Ohio Pub. Utilities Commission (1935) 294 US 63, 70, 79 L ed 761, 6 PUR(NS) 449, 55 S Ct 316; West v. Chesapeake & P. Teleph. Co. (1935) 295 US 662, 692, 693, 79 L ed 1640, 8 PUR(NS) 433, 55 S Ct 894 (dissenting opinion). It is not theory but the impact of the rate order which counts. If the total effect of the rate order cannot be said to be unjust and unreasonable, judicial inquiry under the act is at an end. The fact that the method employed to reach that result may contain infirmities is not then important. Moreover, the Commission's order does not become suspect by reason of the fact that it is challenged. It is the product of expert judgment which carries a presumption of validity. And he who would upset the rate order under the act carries the heavy burden of making a convincing showing that it is invalid because it is unjust and unreasonable in its consequences. Cf. Railroad Commission v. Cumberland Teleph. & Teleg. Co. (1909) 212 US 414, 53 L ed 577, 29 S Ct 357; Lindheimer v. Illinois Bell Teleph. Co. (1934) 292 US 151, 164, 169, 78 L ed 1182, 3 PUR(NS) 337, 54 S Ct 658; California R. Commission v. Pacific Gas & E. Co. (1938) 302 US 388, 401, 82 L ed 319, 21 PUR(NS) 480, 58 S Ct 334.

"The rate-making process under the act, i. e. the fixing of 'just and reasonable' rates, involves a balancing of the investor and the consumer interests. Thus we stated in the Natural Gas Pipeline Company Case that 'regulation does not insure that the business shall produce net revenues.' 315 US at p. 590. But such considerations aside, the investor interest has a legitimate concern with the financial integrity of the company whose rates are being regulated. From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. Cf. Chicago & G. T. R. Co. v. Wellman (1892) 143 US 339, 345, 346, 36 L ed 176, 12 S Ct 400. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. See Missouri ex rel. Southwestern Bell Teleph. Co. v. Public Service Commission, 262 US 276, 291, 67 L ed 981, PUR1923C 193, 43 S Ct 544, 31 ALR 807 (Mr. Justice Brandeis concurring). The conditions under which more or less might be allowed are not important here. Nor is it important to this case to determine the various permissible ways in which any rate base on which the return is computed might be arrived at. For we are of the view that the end result in this case cannot be condemned under the act as unjust and unreasonable from the investor or company viewpoint."

The court also said (at p. 605 of 320 US, 51 PUR(NS) at p. 202):

". . . Rates which enable the company to operate successfully, to maintain its financial integrity, to attract capital, and to compensate its investors for the risks assumed certainly cannot be condemned as invalid, even though they might produce only a meager return on the so-called 'fair value' rate base."

ital additions, $566,105 for useful unoperated acreage, and $2,125,000 for working capital. This produced a rate base of $33,712,526, which was about one-half of the amount claimed by the company to have been actually invested, and was also about one-half of estimated reproduction cost less depreciation. The allowed return of 6½ per cent upon this rate base gave the Hope Natural Gas Company an annual return of $2,191,314, as compared with a return of $5,801,171 during the test year 1940.

In the instant case, petitioners assert that the "prudent investment" (as of December 31, 1941) upon which they were entitled to earn a fair return was at least $75,725,676. As already stated, the Commission found actual legitimate cost to be $78,814,292; deducted $12,596,987 for depreciation; and added $920,000 for working capital; producing a rate base of $67,137,305. The Commission declined to include in the rate base $4,944,820 invested in construction work in progress, and budget estimates of $6,372,100 to complete construction. The Commission found that the facilities under construction were to meet new demands for service to territory not already served by the petitioners, the revenues from which could not be estimated. The 6½ per cent return allowed by the Commission gave petitioners a return of $4,363,925 annually over and above expenses of operation and allowances for depreciation, depletion, amortization, and taxes. The petitioners' long-term debt as of February 28, 1942, was $33,254,500. The annual interest cost upon it was determined to be 2.88 per cent, or $957,730. The preferred stock outstanding was $16,000,000, and the dividend cost upon it was found to be 5.87 per cent, or $939,200 annually. Therefore, the service cost on bonds and preferred stock is $1,896,930 per annum; leaving $2,466,995 as earnings for the common stock. Petitioners have common stock outstanding to the amount of $20,184,175. The annual return upon common stock under the rates allowed by the Commission exceeds 12 per cent. Petitioners, however, contend that they are entitled to at least a 12 per cent return on their common stock and surplus, which together amount to $27,294,990. They state that unless they have such a return the common stock will not be attractive to purchasers. They argue that the least amount they should be allowed to earn upon common stock and surplus is $3,275,399, and that the return allowed by the Commission is about $800,000 short of being adequate. They also refer to the fact that sinking-fund requirements and necessary additions to surplus will or may prevent adequate distributions of earnings to common stockholders.

It is, to say the least, doubtful that earnings of approximately $2,500,000 annually (9 per cent) upon the common stock and surplus of petitioners—whether such earnings are distributed each year or accumulated—would make the petitioners' securities unattractive to purchasers. The evidence indicates that such a return compares not unfavorably with the returns upon similar investments involving comparable risks. In any event, there is nothing in the opinion in the Hope Natural Gas Company Cases, *supra*, to justify a belief that this court could

successfully substitute its judgment for that of the Commission with respect to the debatable question whether the return allowed the petitioners is sufficient to attract investors, or that we could invalidate the Commission's order upon the theory that the return allowed is obviously so unfair and inadequate as to be confiscatory.

Attention should be directed to the fact that the order complained of is not final and irrevocable. Federal Power Commission v. Hope Nat. Gas Co. *supra,* 320 US at p. 615. It must be assumed that if actual experience demonstrates that the rates as reduced by the Commission are unreasonably low, the Commission will allow the petitioners to increase their rates. This court cannot presume that if either unreasonably low or unreasonably high interim rates are prescribed by the Commission, they will be perpetuated. We regard the order under review as a preliminary one made to cover a reasonable test period and subject to change by the Commission if experience shall prove that the rates fixed are either too low or too high.

Unless we have misconceived the teachings and implications of the opinion of the Supreme Court in the Hope Natural Gas Company Cases, *supra,* the standards by which the validity of the Commission's order is to be judged require its affirmance.

We shall, of course, retain jurisdiction over the funds which have been and are being impounded under the stay order which was granted by this court to preserve the status quo pending the final determination of this case.

The mandate of this court will be withheld for sixty days to allow the petitioners to apply to the Supreme Court for certiorari. If certiorari is applied for within that time, the mandate will be retained until the application is ruled upon, and, if it is granted, until the case is finally determined.

The order of the Commission is affirmed.

RIDDICK, CJ., dissenting: I agree with the result reached by the majority on all points decided except on the question concerning the refusal of the Commission to make an allocation as between the interstate sales and transportation of petitioners, subject to the Commission's jurisdiction, and their interstate sales and transportation beyond the jurisdiction of the Commission. Heretofore, the Commission has recognized the necessity of such an allocation and has made it. Re Interstate Nat. Gas Co. (Fed PC 1943) 48 PUR(NS) 267, 279; Re Canadian River Gas Co. (Fed PC 1942) 43 PUR(NS) 205. That a separation of transactions within and beyond the jurisdiction of the Commission is required by the Natural Gas Act, and must be made in order that "regulation may be confined to its permitted field" is held in Colorado Interstate Gas Co. v. Federal Power Commission, decided May 16, 1944, 54 PUR (NS), ante, p. 1, — F(2d) —. Here the Commission has admittedly refused to observe the limit upon its jurisdiction, fixed by Congress. In this situation it seems to me idle to inquire whether the Commission's order, call it a "pragmatic adjustment" or what-not, does or does not result in confiscation of petitioners' prop-

erty, or whether it is less or more favorable to petitioners than would have been the case had the Commission confined itself to its permitted field. It is enough to require a remand of this proceeding that the Commission has exceeded the statutory limitation on its powers.

MISSOURI PUBLIC SERVICE COMMISSION

Re Citizen's Electric Company of Missouri et al.

Case No. 10,370
April 28, 1944

APPLICATION *of electric company to sell and coöperative to purchase certain electric transmission and distribution lines, facilities, and other properties and assets; application granted subject to condition that purchaser convert under Rural Electrification Act and operate thereunder.*

Consolidation, merger, and sale, § 65 — Parties — Interveners.

1. Electric companies do not have sufficient interest to permit them to intervene in a proceeding to obtain Commission approval of the sale of property by another electric company to a coöperative where neither seller nor purchaser is connected directly in any way with the lines of such companies; there are no agreements with any of such companies; none of them own securities of either applicant; none of them serve any area or customer within or near the seller's distribution system; and they make no showing that the acquisition would have any effect upon the operation of any distribution system owned and controlled by any of them, although the seller does purchase power from a company which in turn has a contract to purchase some power from one of the intervening companies, p. 46.

Consolidation, merger, and sale, § 65 — Parties — Interveners.

2. An application for Commission approval of a transfer of property from an electric utility company to a coöperative was determined as if intervention by several other electric companies was proper where they had been permitted to intervene prior to a judicial ruling denying the right to intervene under such circumstances, p. 46.

Consolidation, merger, and sale, § 2 — Right to sell property — Effect on public.

3. A public utility should be allowed to sell its property devoted to public use unless the sale would be detrimental to the public, p. 47.

Consolidation, merger, and sale, § 23 — Public benefit — Operational advantages.

4. The public will be benefited from a sale of electric property by a public utility company to a coöperative when many operational advantages will result in the combining of the two distribution systems under one manage-

ment and present consumers of the seller will benefit by lesser rates offered by the purchaser, while the purchaser, upon acquisition of the property, plans to extend and serve many farmers in outlying districts, p. 48.

Consolidation, merger, and sale, § 22 — Grounds for approval — Wishes of consumers.

5. The Commission, in determining whether approval should be granted for the transfer of electric utility properties, must give consideration to the desires and wishes of the consumers of the seller as representing the public which should be the most interested, p. 48.

Consolidation, merger, and sale, § 6 — Jurisdiction of Commission — Property transferred to coöperative — Question of capital structure.

6. The Commission, in determining whether approval should be granted for the sale of electric property by an electric company to a coöperative, is authorized to inquire into the capital structure of the coöperative, to determine whether or not any injurious effects will result to the public, although the Commission has no jurisdiction over service, rates, financing, accounting, or management of a coöperative, p. 48.

Consolidation, merger, and sale, § 25 — Factors affecting approval — Capital structure of purchaser — Coöperative organization.

7. An application for approval of the transfer of electric properties by a public utility company to a coöperative should not be denied although the capital structure of the coöperative may be contrary to the Commission's policy with respect to authorization of security issues by public utilities, where the purchaser is a nonprofit coöperative controlled by its members and does not propose to offer securities to the public, the shares of stock (having a par value of $5) have been and will be sold only to members and only one share to each member, no dividends will be paid and stock is not freely alienable, and the long-term debt is evidenced by notes issued to the United States government and is being continuously retired by payments thereon, p. 48.

(WILSON, Commissioner, dissents in separate opinion.)

By the COMMISSION: This case is before the Commission upon a joint application of the Citizen's Electric Company of Missouri (hereinafter sometimes referred to as seller) to sell and Laclede Electric Coöperative (hereinafter sometimes referred to as purchaser) for permission to purchase the electric transmission and distribution lines and other facilities of the seller to the purchaser.

The case was heard by members of the Commission at the hearing room of the Commission in Jefferson City, Missouri, on the 21st day of October, 1943, after due notice had been given to all interested parties. An officer of each of the applicants appeared in person and were represented by counsel. The Arkansas-Missouri Power Corporation, Missouri Utilities Company, Empire District Electric Company, Consumers Public Service Company, East Missouri Power Company, Kansas City Power & Light Company, Missouri Edison Company, Missouri Gas & Electric Service Company, Missouri Power & Light Company, Missouri Public Service Corporation, and St. Joseph Railway, Light, Heat

and Power Company (hereinafter referred to as interveners) filed an intervening petition on October 13, 1943, objecting to the approval of the proposed sale for several reasons therein alleged. When the case was called for hearing the applicants filed a motion to strike the intervening petition on the ground that the interveners had no legal interest in the proceeding. After hearing arguments by counsel thereon the Commission overruled the motion to strike the intervening petition and permitted the interveners to participate in the case.

The evidence presented to the Commission shows that the Citizen's Electric Company of Missouri is a public utility corporation duly organized and existing under the laws of the state of Missouri with its principal office and place of business in the city of St. Louis, Missouri. It owns and operates electric transmission and distribution lines and facilities in the counties of Miller and Pulaski consisting of a single phase 6,900-volt line running north from Crocker to Iberia, a distance of approximately 12 miles, and also a 33,000-volt transmission line running south from Crocker substation of Missouri Electric Power Company to Waynesville, Missouri, a distance of approximately 13 miles, and distribution systems in and around the towns of Waynesville and Iberia along with a spur distribution line south of Crocker. The seller holds franchises from the towns of Waynesville and Iberia authorizing the operation of electric properties therein, which expire in approximately six years.

The Laclede Electric Coöperative is a coöperative corporation organized and existing under the provisions of Art. 28, Chap. 102, Revised Statutes of Missouri, 1939, with its principal office and place of business at Lebanon, Missouri. The purchaser has, since the execution of the contract with the seller, elected to convert, under the Electric Coöperative Act, into a coöperative, nonprofit membership corporation by virtue of the provisions of § 5402 of Art. 7, Chap. 33, Revised Statutes of Missouri, 1939. The purchaser proposes to complete its conversion under the said act by the filing of the Articles of Conversion with the secretary of state if the approval of the sale is granted by this Commission. The purchaser is now engaged in the distribution and sale of electric energy to its members located in the counties of Laclede, Wright, Dallas, Webster, Camden, Pulaski, Phelps, and Maries. The purchaser's distribution system built in 1940 and 1941 is of modern construction consisting of approximately 450 miles of 6,900-volt copperweld line, some 3-phase and some 2-phase with the majority single phase. It serves some 950 members.

The seller and purchaser have entered into a written agreement dated May 5, 1943, wherein the seller agreed to sell and the purchaser agreed to purchase all electric transmission and distribution lines, facilities, and appurtenances thereto owned or operated by seller in the state of Missouri and certain other properties and assets, including rights and franchises, therein described for a base cash consideration of $100,000, subject to certain adjustments provided in the contract. The contract was offered and received in evidence and the execution

thereof had been duly authorized by the stockholders and board of directors of both the seller and purchaser.

The purchaser proposes to finance the purchase through an allotment of funds of $135,000 made by the Rural Electrification Administration of the United States government. It is estimated that the purchaser will pay for the property a total of $120,000, when the adjustments are made in the contract and the total amount of this purchase price will be advanced by the Rural Electrification Administration out of the alloted fund of $135,000. The balance of that allotted fund will be advanced from time to time to the purchaser to rehabilitate and extend the lines purchased.

The purchaser proposes to operate the property much in the same manner as it has been managed by the seller by employing the personnel of the seller and acquiring its equipment. It was shown that the office of the purchaser is more conveniently located, with respect to the distribution system, than the seller's office, which is now located in St. Louis, approximately 135 miles from the electric distribution system. The purchaser proposes to do away with the St. Louis office and thus save from $1,000 to $1,200 a month in operating expenses.

One of the witnesses pointed out that the financial condition of the purchaser would be improved if the properties were operated under one management because it would result in reducing operating expenses for both systems. It was further shown that the acquisition would enable the purchaser to make extensions into rural areas, which it might not otherwise be feasible to reach. Money has already been allotted to the purchaser by the United States government for the purpose of making new extensions to serve people in rural areas. One of the reasons advanced by the seller for selling the property is that the field in which it operates is so surrounded as to offer no reasonable opportunity for growth other than that possible in the communities already served.

The purchaser's distribution system now parallels to a certain extent the system to be acquired from the seller and it plans to integrate the two systems as soon as materials become available. The purchaser's distribution system has been financed by loans made by the Rural Electrification Administration. The purchaser claims to keep its operating costs at a minimum, partly because its members coöperate in the operation of maintaining the system and reading their own meters.

Several businessmen, electric users, and officers of the towns of Waynesville and Iberia testified that the electric consumers of the seller were highly in favor of the sale and that there was absolutely no opposition, of which they were aware, to the sale on the part of any consumer with whom they were familiar. In this connection resolutions of the town councils of Iberia and Waynesville approving the sale were introduced in evidence, as was a form of application of membership with the purchaser, which had been signed by 475 of the seller's consumers. A petition was filed with the Commission consisting of approximately 534 names of consumers of the seller requesting that

the Commission approve the sale. This petition was offered in evidence but upon objection was excluded. However, it was permitted to be filed with the case papers.

The record discloses that no consumer of the seller opposed in any way or objected to the sale of the property herein and there seems to be no objection whatsoever to the sale, except the objections made by the eleven power company interveners. In this connection the record shows that the only utilities within 25 or 30 miles of the seller are Missouri Electric Power Company, Missouri General Utilities, and Western Light and Telephone Corporation, none of which intervened in this case. None of the interveners is directly connected with the seller's system or serves any customers in the seller's territory and the seller has no contract with any of the intervening utilities nor do the interveners own any stock, bonds, or other securities or obligations of either of the applicants. There was no showing made that the proposed acquisition would have any effect on the operations of any electric systems owned by the interveners.

Evidence was introduced showing that as of June 30, 1943, the physical plant properties and equipment of the seller were carried on its books at $117,353.96 against which depreciation had been charged of $31,196.37, leaving net depreciated book value of $86,157.59. It was shown that this value was made up of the cost of the property to the company when acquired in 1928 plus subsequent additions at cost less retirals. The property had been depreciated at an annual rate of 4 per cent, which was testified to as higher than is customarily charged on operating properties of this character.

It was further shown that the major part of the seller's system has been substantially rebuilt in the last few years. It was shown that the transmission line from Crocker to Waynesville was completed in 1941 and that the Waynesville distribution system had been almost completely reconstructed and other sections of the properties had been modernized. It was estimated that approximately $50,000 had been spent on the property two years prior to March 31, 1942, and that substantial amounts had been spent since that time.

A witness testified that the major portion of the property was in a 95 per cent condition. No evidence was introduced as to the present-day reproduction cost. The physical property and area served were inspected and appraised and thereafter the purchase price was agreed upon. It was further shown that the principal stockholder of the seller had paid from $60,000 to $65,000 for his interest in the stock and that, after the payment of income taxes, he will realize from the transaction approximately $90,000.

The evidence further disclosed that the gross revenue from the seller's system had arisen from around $17,000 in 1938 to approximately $75,000 in 1943. Witnesses explained that this increase was partially due to the fact that Fort Leonard Wood is located in the area and many increased activities resulted therefrom. It was further shown that if the Fort should be discontinued there would be a reduction of around 25 or 30 per

cent in the operating income of the seller and another witness explained that he thought this reduction would be recovered in the natural development of the area. The seller does not serve the Fort but the purchaser now furnishes service thereto.

Testimony was introduced showing that a large transient population now exists in and about the towns surrounding Fort Leonard Wood consisting principally of roomers who move in and out. In Waynesville there were approximately 150 residents and 30 business buildings, although the present population is claimed to be from 1,000 to 1,200. During the period prior to the location of the Army training camp the net earnings of the seller, after deducting operating expenses and depreciation, amounted to slightly over $2,000 during each of the years 1938 to 1940. After the Fort was established they were increased in 1941 to $10,858.32 and in 1942 to $6,877.08.

Interveners' Exhibits 2 and 3 prepared by the Commission's accountants from the annual reports of the seller show that after all expenses and charges had been deducted it had a deficit in surplus account in 1935 of $20,391.66; in 1936 a balance of $60.65; a deficit of $646.76 in 1937; a deficit of $360.80 in 1938; a deficit of $208.38 in 1939; a balance of $196.32 in 1940; a balance of $8,594.61 in 1941; and a balance of $180,057.43 in 1942. This last figure appears to be largely due to the sale of telephone properties and the donation of sale receipts to the company.

There was a great deal of testimony and cross-examination of witnesses pertaining to the financial condition of the purchaser, all of which has been given our careful consideration. It would be impossible to detail all of the evidence pertaining thereto in this report and order and still keep it within the bounds of reason, however, we shall briefly state that it was shown that upon the acquisition of the properties the purchaser will have a total "utility plant" cost of approximately $781,000. It was shown that it has other assets, such as cash on hand, accounts receivable, material and supplies, and intangible values not included in the utility plant account, all amounting to approximately $849,897.18. Against this, the purchaser will have a long-term indebtedness secured by a mortgage lien on all of its property to the United States government in the sum of approximately $786,708.84. This represents $666,708.84, which has been advanced on the loan as its long-term indebtedness as of June 30, 1943, plus approximately $120,000, which will have to be advanced by the Federal government to purchase the property involved from the loan contract for $135,000. The balance of the $135,000 will from time to time be advanced to rehabilitate and extend the lines purchased, but it should be noted that as it is advanced it will be shown as capital additions and results in a corresponding increase in the value of the properties.

It was further shown that the purchaser's service to Fort Leonard Wood is presently bringing in about four-fifths of the purchaser's gross revenue on a nonprofit basis. However, the War Department's contract with the purchaser assures it that the con-

struction and operation of this line will result in no loss to the purchaser. There were negotiations at the time of the hearing with the War Department whereby it offered to advance funds to reimburse the purchaser for the cost of the installations less the salvage value of the Fort Leonard Wood line. A witness explained that the loss of the Fort Leonard Wood line would not adversely affect the purchaser's present financial condition because upon reimbursement from the government the long-term indebtedness of the purchaser would be greatly reduced.

At the present time the purchaser has executed to the United States government four mortgage notes secured by a deed of trust and supplement deeds of trust on all of its properties as follows: One note dated April 10, 1939, in the amount of $158,000, bearing interest at 2.73 per cent; one note dated October 25, 1940, in the amount of $247,000 bearing interest at 2.46 per cent; one note dated January 10, 1941, in the amount of $275,000 bearing interest at 2.46 per cent; and one note dated May 5, 1942, in the amount of $60,500 bearing interest at 2.48 per cent. All of the above notes are amortized over a 25-year period. The total amount of money represented by these notes has been advanced to the purchaser, except only $27,771.53 had been advanced on the last-named note as of June 30, 1943. In other words, the purchaser has outstanding mortgage notes to the United States government in the total amount of $740,500, of which amount $707,771.53 had been advanced as of June 30, 1943. The notes provide that no interest is to be paid thereon during the first thirty months. The notes are to be amortized and paid over a 25-year period commencing thirty months after the date of the note. The principal and interest payments on the notes vary as the notes mature.

It was also shown that the purchaser has made repayments on the principal of its loan to the United States government of approximately $55,000 and prepayments in advance of the date due of $25,000.

It was further shown that none of the villages or towns now served by the seller have a population of more than 1,500. All persons now receiving service from the seller may, at their option, if the proposed transfer is consummated, obtain service from the purchaser either at the rates now in effect and charged to members of the purchaser or at the rates offered by the seller. The rates of the purchaser to its members are slightly lower than those now charged by the seller.

At the conclusion of the hearing, counsel were granted time to file statements and briefs and the same have been filed both on behalf of the applicants and interveners. They have been given our careful consideration.

[1, 2] Counsel for applicants at the commencement of the hearing in filing the motion to strike the intervening petition, in their argument thereon and in their brief filed herein, strenuously objected to the intervention by interveners. The Commission overruled the motion and permitted the intervention at the time for the reason it was of the opinion that the matter had not been definitely passed upon by the appellate court and

also that the evidence to be presented might show that the interveners would have some interest in the case. Since the hearing the supreme court has recently handed down an opinion in the case of State ex rel. Consumers Pub. Service Co. v. Public Service Commission, 180 SW(2d) 40, in which we are now given a yardstick to govern us in determining what parties have the right to intervene in cases of this nature. It is clear from the holding of that case that none of the interveners have shown sufficient interest to permit them to intervene. Neither seller nor purchaser is connected directly in any way with the lines of the intervening companies. There are no contracts or agreements for service, maintenance, power, or for any other purpose whatever with any of the intervening companies. However, the seller does purchase power from the Missouri Electric Power Company, who in turn has a contract to purchase some power from the intervener, Empire District Electric Company. None of the interveners own stock, bonds, or other securities of either of the applicants. None of the interveners serve any area or customer within or near the seller's distribution system. The interveners made no showing that the acquisition would have any effect whatsoever upon the operation of any distribution system owned and controlled by them or any of them. Under these facts and circumstances we are of the opinion that none of the interveners have shown sufficient interest to entitle them to intervene herein. However, since the Commission permitted the intervention, we will determine the matter as if the intervention was proper. We, therefore, have carefully considered all the evidence and the statements and briefs filed herein.

Many of the contentions and objections of the interveners to the proposed acquisition have been held to be without merit in the recent decision of the supreme court in State ex rel. Consumers Public Service Company Case, above referred to.

We have previously permitted regulated utilities to sell their property to an electric coöperative where it has been shown that the sale will not be detrimental to the public interest and where the towns served are less than 1,500 population and where the consumers of the utility did not object to the sale. We have always conditioned the authorization upon the coöperative being organized or converted under the Rural Electrification Act (being Art 7, Chap 33, Revised Statutes of Missouri 1939) and to operate thereunder. In this case the purchaser has indicated its intention to convert and operate under the Rural Electrification Act, if and when the Commission grants permission to acquire the properties herein involved.

The evidence clearly shows that there was no objection voiced by the present consumers of the seller to the sale and in fact all the evidence tends to indicate that they are highly in favor of the sale and willing to become members of the purchaser. None of the towns now served by the seller has a population exceeding 1,500.

[3] The only remaining question involved in this proceeding is whether or not the public interest will be served or adversely affected by the

proposed transfer. The law is well settled that a public utility should be allowed to sell its property devoted to public use unless the sale would be detrimental to the public. State ex rel. St. Louis v. Public Service Commission (1934) 335 Mo 448, 459, 5 PUR(NS) 230, 73 SW(2d) 393, 400.

[4] The record herein discloses that the public will be benefited in many ways by the proposed acquisition. Many operational advantages will result in the combining of the two distribution systems under one management and the present consumers of the seller will benefit by the lesser rates which are now offered by the purchaser. The purchaser upon the acquisition of the property plans to extend and serve many farmers in outlying districts. These farmers will have electric service brought to their farms for the first time. The funds for such new construction into the surrounding rural areas have already been allotted by the United States government and the lines will be built as soon as the materials become available.

[5] The Commission, in determining this matter, must also give consideration to the desires and wishes of the consumers of the seller. They represent the public which should be the most interested herein. The record clearly shows the intention and wishes of these consumers.

We have carefully considered the evidence with respect to the purchase price and under the facts and circumstances herein we do not think it is unreasonable or unfair.

[6] The 1939 Missouri Electric Coöperative Act under which the purchaser is in the process of converting, provides in § 5389, Missouri Revised Statutes, 1939, that the Commission shall have no jurisdiction over the control of the service, rates, financing, accounting, or management of a coöperative operating thereunder. However, we are of the opinion that we are authorized in determining a case of this nature to inquire into the capital structure of the coöperative in determining whether or not any injurious effects will result to the public therefrom.

[7] The interveners argue that the purchaser's long-term indebtedness, after the acquisition, will exceed the value of its property and assets. The record does not sustain this contention. The purchaser's "utility plant" based on original cost together with other assets, such as cash on hand, accounts receivable, materials and supplies, and intangible values not included in plant account, amounts to approximately $849,897. Against this, the long-term indebtedness to the United States government is approximately $786,708, representing $666,708.84, which has been advanced on its loan of June 30, 1943, plus $120,000, which will have to be advanced to acquire the property involved. A considerable portion of the long-term indebtedness was created for the purpose of installing service for the War Department at Fort Leonard Wood. This indebtedness is now being reduced at the rate of $2,200 per month. The War Department has offered to advance funds to reimburse the purchaser for the cost of this installation less the salvage value. In this event, the long-term indebtedness would be greatly reduced.

It might be said that the capital structure of the purchaser is contrary to the Commission's policy with respect to authorization of security issues by public utilities. We try to require a larger percentage of equity capital in comparison to total fixed debt, yet we have no hard and positive rule fixing ratios and each case is determined according to the existing facts and circumstances presented. In this case the purchaser is a nonprofit coöperative and controlled by its members. The purchaser does not propose to offer any securities to the public and the shares of stock having a par value of $5 have been and will be sold only to those applying for membership and only one share sold to each member. The shares of stock will not be offered to the public or purchased as a financial investment or speculation. No dividends will be paid and such stock is not freely alienable. The long-term debt is evidenced by notes issued to the United States government by the purchaser and is being continuously retired by payments thereon. We assume that the United States government is equipped to protect its own interest and while the shareholders or members of the purchaser have no considerable money invested, yet they are very much interested in continuous availability of a sufficient supply of low-cost electricity.

Interveners also contend in their brief that the purchaser will be unable to make the necessary payments to the government within the time required under the loan agreements. The record is clear that it is now meeting all payments as they become due and in fact have made prepayments in advance of the due date in the sum of $25,000. The purchaser's revenues have gradually increased and its membership has arisen. Although the payments on the loan will become greater as time goes on, we believe that the purchaser's revenue will continue to increase to such an extent that it should be able to meet the payments on the loan as they fall due.

Section 5388 Revised Statutes of Missouri, 1939, provides that a coöperative may serve its members and "other persons not in excess of 10 per centum of the number of its members." The interveners contend that the purchaser upon the acquisition of this property will not be permitted, under the law, to serve all the present customers of the seller for the reason that a sufficient number of them have not signed applications or petitions to become members of the purchaser. The record does not sustain this contention. The testimony shows that representatives of the purchaser contacted a high percentage of the seller's customers and that no one had either refused to become a member of the purchaser or in any way objected to the purchase. In fact every one approached in connection with the matter expressed approval of the transaction. The interveners presented no witness to testify that he disapproved of the sale or would not become a member of the purchaser. If there had been such witness or customer no doubt the Commission would have heard of their objection in some manner, since wide publicity and notification was given to the public of the proposed sale. A witness testified that 95 per cent of the present customers of the seller had indicated their

intentions of becoming a member of the purchaser upon the acquisition of the property. The witness stated that in arriving at this percentage he took into consideration that the 725 or 750 meters of the seller did not indicate that it had that many customers because many of its customers had more than one meter.

Under the facts and circumstances as developed by the evidence, and set out herein, we are of the opinion that no interest of the creditors, the purchaser, or the members of the purchaser, will be injuriously affected by reason of the capital structure of the purchaser; and that neither the capital structure of the purchaser nor the sale of the electric transmission and distribution lines, facilities, and other properties and assets of the seller to the purchaser will work to the public detriment; and, therefore, we do not feel warranted in denying the application.

After careful consideration of all the evidence the Commission is of the opinion that if the purchaser converts under the Rural Electrification Act, Art 7, Chap 33, Revised Statutes of Missouri, 1939, and operates thereunder, the granting of the application will not be detrimental to the public and that the public will benefit thereby.

It is, therefore,

Ordered: 1. That if before the effective date of this order the Laclede Electric Coöperative shall have fully complied with the provisions of § 5402, Art 7, Chap 33, Revised Statutes of Missouri, 1939, and operates thereunder, the Citizen's Electric Company of Missouri shall be and is hereby authorized upon such compliance to sell and transfer its electric transmission and distribution lines, system, and equipment, as described in the contract filed and mentioned herein, to said Laclede Electric Coöperative for the contract price of $100,000, plus certain adjustments as provided in said contract, and that said Citizen's Electric Company will thereafter be relieved from the obligation as a public utility of furnishing electric service to the community it now serves.

Ordered: 2. That the Laclede Electric Coöperative shall, prior to the effective date of this order, file proof with this Commission of the compliance by it with the above condition provided in "*Ordered:* 1." by its said conversion into a coöperative under the provisions of § 5402, Revised Statutes of Missouri, 1939, as above required.

Ordered: 3. That this order shall take effect thirty days from this date, and that the secretary of the Commission shall forthwith serve on all parties interested herein a certified copy of this report and order and that the applicant and all other interested parties shall notify the Commission before the effective date of this report and order in the manner prescribed by § 5601, Rev Stats Mo 1939, whether the terms of this order are accepted and will be obeyed.

Miller, Chairman, Williams, Ferguson, and Henson, Commissioners, concur: Commissioner Wilson dissents in separate opinion.

WILSON, Commissioner, dissenting: I cannot concur in the majority opinion because it is my best judgment that the proposed transfer is contrary to the public interest.

Section 5651 Rev Stats Mo. 1939 prohibits an electric corporation from selling, transferring, or otherwise disposing of its franchises, works, or systems necessary or useful in the performance of its duties to the public without first securing from this Commission an order authorizing it to do so.

The legislature did not specify in this instance any particular facts or conditions which the Commission should consider in granting or denying an order authorizing such a transfer. It seems to me, however, that the purpose of the legislature was apparent and that the range and scope of our inquiry and the nature of our finding in these cases are clearly implied from the circumstances and the context of the law.

Before the Public Service Commission Act of 1913, which contained this provision, was a year old the supreme court of Missouri formulated the rule of construction which has since guided the Commission and the courts of Missouri in applying the act. The supreme court of Missouri in an opinion by Judge Lamm, in State ex inf. Barker ex rel. Kansas City v. Kansas City Gas Co. (1914) 254 Mo 515, 534, 535, 163 SW 854, said:

"That act is an elaborate law bottomed on the police power. It evidences a public policy hammered out on the anvil of public discussion. It apparently recognizes certain generally accepted economic principles and conditions, to wit . . . ; that state regulation takes the place of and stands for competition; that such regulation, to command respect from patron or utility owner, must be in the name of the overlord, the state, and to be effective must possess the power of intelligent visitation and the plenary supervision of every business feature to be finally (however invisibly) reflected in rates and quality of service. It recognizes that every expenditure, every dereliction, every share of stock or bond or note issued as surely is finally reflected in rates and quality of service to the public, as does the moisture which arises in the atmosphere finally descend in rain upon the just and unjust willy nilly."

" . . . The act, then, is a highly remedial one filling a manifest want, is worthy of a hopeful future, and on well-settled legal principles is to be liberally construed to further its life and purpose by advancing the benefits in view and retarding the mischiefs struck at—all pro bono publico. Besides all which, the lawmaker himself has prescribed it, 'shall be liberally construed with a view to the public welfare, efficient facilities, and substantial justice between patrons and public utilities.' "

This is an application for the approval of a sale of the properties of a private utility serving the two villages of Waynesville and Iberia and surrounding area located in the Ozark foothills and having a population of 468 and 486, respectively, according to the 1940 census. Prior to the location of Fort Leonard Wood near

Waynesville the gross revenues of this electrical system were as follows:

1938	$17,304.86
1939	18,497.98
1940	19,960.13

The establishment of the Army camp at Fort Leonard Wood brought to Waynesville many new residents and many new businesses and the gross revenue of this utility increased to $54,806.38 in 1941 and to $69,000.72 in 1942. Our Public Service Commission accountant, Mr. William C. Ross, testified that the annual reports of the Citizen's Electric Company showed that its net earnings after deduction of operating expenses, taxes, and depreciation were:

1938	$2,307.73
1939	2,029.76
1940	2,226.73

In 1941 the net operating revenue was $10,858.32 and in 1942 $6,877.08. It is to be noted that upon the completion of construction work the earnings rapidly decreased. I find nothing in the evidence to indicate that earnings will not as quickly decrease when the present war activities are ended or greatly reduced. If this decrease in earnings is very great the possibilities of meeting the interest requirements and service upon the debt will be very slight. It will inevitably lead to an impairment in service, *and* an increase in rates.

Intervener's Exhibit 3 shows balances in earned surplus as follows:

1938	$360.80 deficit
1939	208.38 deficit
1940	196.32

In the construction period of Fort Leonard Wood with its influx of construction workers and others who were attracted by the construction program increases in earned surplus were shown. The balances follow:

1941	$8,594.61
1942	$180,057.43

The balance at December 31, 1942, is comprised of a balance in Capital Surplus of $185,826.77, arising out of a sale of telephone property as described in the majority opinion, and a deficit in Earned Surplus of $5,769.34, so it is evident that even with the recent substantial increases in revenue the deficit in Earned Surplus has not been eliminated or, in other words, losses during normal times have not been offset by the recent abnormal earnings.

The operating revenues statement for 1942 attached to the application shows residence lighting revenues to be $20,130.21 while the commercial lighting revenues were more than twice that amount—$46,717.03. From an examination of the list of commercial customers, furnished the Commission upon request made at the hearing, it appears that many of the businesses have sprung up since the establishment of Fort Leonard Wood —various military and Army stores, cafés, photograph studios, liquor stores, beer parlors, tailor shops, the city of Waynesville electric water pumps and disposal plant, USO, hospitals, shops, stores, theaters, night clubs, and other places of amusement. It is plain that Citizen's Electric Company is enjoying an abnormal business occasioned almost entirely by the war and the establishment of Fort Leonard Wood in this area; it is also reasonably certain that when the war is

over revenues for electrical service in this area will decrease accordingly.

I cannot agree with the majority report which states, "It was further shown that if the Fort should be discontinued there would be a reduction of around 25 or 30 per cent in the operating income of the seller. . . ." This was merely the opinion of one witness without giving any facts upon which to base such an opinion. It is more reasonable to assume that should the Fort be abandoned the loss in revenue will be almost proportionate to the gain in revenue occasioned by the establishment of the Fort. What the military training program of the United States will be following the war is a matter of pure speculation. Conceding that Ford Leonard Wood will be a permanent Fort, as contended by applicant, it is not reasonable to assume that business conditions will be as prosperous as they have been in the past two years in a community which entertains 25,000 to 30,000 soldiers every week end, and at a time when the Fort is a part of a program for training 13,000,000 service men for the greatest war in history. There are no industries located in this area nor is there any characteristic of the Ozark hills of this area conclusive to large electrical earnings in peacetime. It is more logical to believe that the earnings for this area will more nearly approach the earnings prior to the establishment of Fort Leonard Wood in the normal years of 1938 to 1940, inclusive.

If, with decreased revenues and an obligation of almost a million dollars, the Laclede Electric Coöperative should find it necessary to increase the rates to its customers, including former customers of Citizen's Electric, or if with decreased revenues the Laclede Coöperative could not maintain its system in as good condition and could not render as satisfactory service, the customers of Laclede Electric Coöperative could not turn to the regulatory body of the state of Missouri, the Missouri Public Service Commission, for relief from such increased rates and inadequate service, for this Commission will have surrendered its jurisdiction and left the consumers without a remedy. Considering the facts of this particular case and the likelihood of such a situation occurring, it is my opinion that it is detrimental to the public interest to sustain the application.

The purchase price which the Laclede Electric Coöperative proposes to pay for the Citizen's Electric Company properties is approximately $120,000. A note for $135,000 has already been executed by Laclede Electric Coöperative to pay the $120,000 purchase price and for rehabilitating the present system sometime in the future. The property sought to be purchased is described in the application to include the following:

Electric distribution systems located in, and in the vicinity of, the towns of Iberia, in Miller county, and Waynesville, in Pulaski county; a certain 33-kilovolt electric transmission line extending in a generally southerly direction from a certain substation located in or near the town of Crocker to the town of Waynesville; a certain distribution line ex-

tending in a generally northerly direction from the Crocker substation to the town of Iberia; a certain electric distribution line extending in a generally southeasterly direction from the Crocker substation for a distance of approximately 4 miles; a certain distribution line extending in a generally northwesterly direction from seller's substation located in or near the town of Waynesville for a distance of approximately 7 miles; a certain electric distribution line extending in a generally easterly direction from the Waynesville substation for a distance of approximately 4 miles; all substations except the Crocker substation.

There are 2,800 shares of stock of Citizen's Electric Company outstanding. The principal stockholder owns approximately 70 per cent of the stock for which he tsetified he paid $60,000 to $65,000, and for which he expects to receive approximately $90,000 in the proposed sale.

The balance sheet of Laclede Electric Coöperative shows its long-term obligation to be $666,708.84. Its indebtedness to the Federal government including the additional sum of $135,000 will be $801,708.84. This Coöperative's property consists of approximately 450 miles of line in the eight counties of Laclede, Wright, Dallas, Webster, Camden, Pulaski, Maries, and Phelps, serving about 950 consumers. The balance sheets of the two companies reflect a depreciated book value of the plant of the two companies of $747,187.65. This, and not the $849,897.18 mentioned in the majority opinion, is the security for the loan of $801,708.84. Cash, other current assets, which vary from day to day and intangibles are not elements of value which are generally considered by this Commission in measuring values for long-term financing and I see no reason why an exception should be made in this case. I cannot subscribe to any action by the Commission which indicates a general relaxation of the sound and conservative rule of financing utility enterprises followed by this Commission for thirty years.

The principal consumer of Laclede Electric is the War Department. Of the $277,000 in revenues for the twleve months ending June 30, 1943, $240,000 was received from the War Department. An examination of the list of its commercial consumers furnished the Commission indicates that many are businesses located near the Fort, and are probably temporary. One witness testified:

"The War Department has come to the coöperative with the proposition of transferring the investment in the facilities from the Rural Electrification Administration to the War Department."

The testimony of this witness does not substantiate the contention that it is expected that the large revenues from Fort Leonard Wood will continue:

" . . . The contract is their explanation, a uniform type of contract, based on the theory of the War Department advancing the capital necessary to extend facilities into military establishments or other departments of the government which may or may

not be of a temporary nature so that the possibility of the service terminating on short notice would not leave the supplier to be penalized by furnishing the service."

The War Department would pay to the coöperative the difference between the cost of the line and the salvage value. This money, it is said, would reduce the indebtedness that much. While this arrangement might advantageously affect the coöperative members, there would still be the debt of $135,000 covering the Citizen's Electric properties.

Laclede Coöperative has been financed entirely by the government except for membership fees amounting to from $4,500 to $5,000. The debt to the government is to be repaid within twenty-five years. If the property is maintained in normal condition and the debt is fully repaid, as hoped for, then the members of this coöperative will own this property, worth perhaps a half million dollars, in which each has invested a five-dollar membership. If this coöperative's financing should work out in such a favorable way, then, it could hardly be said that this is a nonprofit organization.

The applicants offered in evidence notarized petitions addressed to the Commission requesting the approval of the proposed sale, and which they claimed were signed by approximately 95 per cent of the consumers. Actually, these petitions bear 534 signatures. Some signatures appear more than once, but it was contended that some customers had more than one meter. These petitions were considered incompetent and were not received in evidence. Mr. Haugh, manager of Laclede Electric Coöperative, saw some customers sign a petition. As to how many the record is silent. He employed other solicitors to get signers to the petitions. Upon cross-examination, Mr. Haugh admitted that 95 per cent was his estimate of the number of signers and was unable to say that the signatures on the petitions were those of consumers of Citizen's Electric.

Membership applications have been circulated among the Citizen's Electric Company's consumers. There was testimony that 475 of the 729 consumers had signed at the date of the hearing.

Mr. L. C. Riggsby, member of the city council of the city of Waynesville, testified that, "Everybody is highly in favor of it." He stated, however, on cross-examination that he did not know that the purchase price was $120,000, and that the citizens had no information whatever about it. He said he was interested in lower rates and better service and believed the coöperative agreed to serve everybody within the city limits whether they were members or not. He also stated that he thought the citizens of Waynesville had no knowledge about the financial condition of Laclede Coöperative; that they did not know the debt exceeded the value of the property, but that they were willing to take a chance.

Although witnesses testified that community sentiment was in favor of the proposed transfer, this is only opinion evidence and the record shows

that only 475 consumers have actually signed membership applications. Since the record shows that there are 729 consumers it appears that considerably more than 10 per cent of the consumers have not signed membership applications. In fact, only 65 per cent of the consumers have signed such applications. Upon this showing and under the language of the supreme court opinion in State ex rel Consumers Pub. Service Co. v. Public Service Commission (April 3, 1944, not yet published) I do not believe this Commission can legally authorize the transfer. In that case the court said:

"Of course, if sufficient consumers of the area did not become members of the coöperative (so that it could legally serve all prospective consumers, at least within the 10 per cent limit above its membership) the Commission could not properly authorize a transfer. . . ."

My construction of the above language is that before this Commission can lawfully authorize a transfer it must affirmatively appear that the coöperative can legally serve all prospective consumers within the area being served by the transferor utility. If this condition is not present the court said that the Commission cannot properly authorize a transfer. The court points out the fact that under the Rural Electric Coöperative Act of 1939 a coöperative can legally serve "other persons (not members, governmental agencies and political subdivisions) not in excess of 10 per centum of the number of its members." (Section 5387, Rev Stats Mo 1939.) After making allowance for this limitation, the Commission has no authority to authorize the transfer unless all prospective consumers within the area will continue to have service legally.

This statement of the court, which goes to the jurisdiction of the Commission may be illustrated by the figures in this record. The Citizen's Electric Company had 729 consumers according to its annual report for the year ending December 31, 1942. Of these, eight were identified as being municipal corporations, leaving 721, which for the purpose of this illustration will be considered to be all of the prospective consumers in the area now served by the Citizens Electric Company, other than governmental agencies and political subdivisions. It was estimated that the Laclede Coöperative had 950 consumers all of whom were members. No distinction appears in this connection between public agencies and other consumers. Hence, if the two companies were consolidated there would be 1,671 prospective consumers in the total area, other than public agencies. This record shows that at the time of the hearing only 475 of the Citizen's Electric consumers had signed applications for membership in the coöperative. Assuming that applications for membership are equivalent to membership, the total membership of the coöperative on the day of the hearing was 1425. This condition would permit legal service to 143 nonmembers, or a total of 1,568 or 103 less than the 1,671 consumers in the area.

The court having stated the matter of the ratio between members and non-

members as one affecting our jurisdiction, it is my view that such ratio must affirmatively appear in the record by clear and convincing proof as a present existing fact and not be left to the chance that at some time in the future the condition will be attained which the supreme court has held is necessary in order for the service rendered by the coöperative to be legal and a transfer of utility property to a coöperative to be authorized as a matter of law.

Upon a consideration of all the evidence it is my opinion that, in addition to being unlawful for the reasons stated, the business features of the proposed transfer are financially unsound and that the transfer of the property would be detrimental to the public interest and contrary to the public welfare. For these reasons I respectfully dissent from the majority opinion.

CONNECTICUT PUBLIC UTILITIES COMMISSION

Re Uniform Fuel Clause for Electric Companies

Docket No. 7417
June 13, 1944

INVESTIGATION *of proposed uniform fuel clause for inclusion in rate schedules of all electric utility companies; principles of uniform fuel clause approved.*

Rates, § 303 — Uniform fuel clauses — Electric utilities.

1. The principles of a uniform fuel clause, as approved by the Commission, should be the foundation of fuel clauses for inclusion in the rate schedules of all electric utility companies subject to regulation by the Commission, p. 61.

Rates, § 303 — Fuel clauses — Purpose.

2. A fuel adjustment clause is designed not to increase the company's net revenue, but to recoup increases in the cost of fuel and at the same time to give to the customers the benefit of any decreases in the cost of fuel that may occur in any subsequent downward trend of price levels, p. 61.

Rates, § 303 — Fuel clauses — Electric utilities — Basis.

3. A fuel adjustment clause of an electric utility should provide that the cost of fuel shall be the price per net ton of coal, or its equivalent, delivered alongside of generating stations, including inventory, p. 61.

Rates, § 303 — Fuel clauses — Electric utilities — Basis for adjustment.

4. A fuel adjustment clause of an electric utility should provide for the

same basis of adjustment when the price of fuel is lower as when the price is higher than the base price, p. 61.

Rates, § 303 — Fuel clauses — Electric utilities — Basis of adjustment.

5. A fuel adjustment clause should provide that the basis of adjustment be consistent with the generating and delivery efficiency and be changed from time to time as changes in such efficiency justify, p. 61.

Rates, § 303 — Fuel clauses — Electric utilities — Neutral zone.

6. A fuel adjustment clause of an electric utility should provide, whenever the ends of equity as between company and customer can be served thereby, a neutral zone within which the adjustment will not apply, but when the fuel price rises above or falls below the neutral zone the adjustment shall be applied from the base price, p. 61.

Rates, § 303 — Fuel clauses — Electric utilities — Mandatory or optional adjustment.

7. A fuel adjustment clause of an electric utility should provide that a downward adjustment, reflecting a decrease in the cost of fuel shall be mandatory, and an upward adjustment reflecting an increase in the cost of fuel shall be at the election of the utility, and the fuel adjustment clause as filed should indicate whether such upward adjustment will be applied automatically or only from time to time as the utility may decide, p. 61.

Rates, § 303 — Fuel clauses — Electric utilities — Explanation of basis.

8. A fuel adjustment clause of an electric utility should be accompanied by an explanation of the method and manner of determining the base price, the average cost of fuel, and the adjustment rate for increases or decreases in the energy charge, p. 61.

Rates, § 303 — Amendment of fuel clause.

9. Where a fuel clause in existing rate schedules of an electric company does not conform with the uniform principles, approved by the Commission, the company should amend its rate schedules so as to substitute a clause which conforms to such uniform principles, p. 61.

Rates, § 303 — Amendment of fuel clause — Basis.

10. An electric company amending its rate schedules, by the substitution of a uniform fuel clause, in accordance with principles approved by the Commission, need not change the base price of coal from that upon which its existing fuel clause is based, provided the rates in the schedules to which the existing fuel clause applies are not thereby changed, p. 61.

Rates, § 303 — Amendment of fuel clause — Base price of fuel — Modification by Commission.

11. When an existing schedule of an electric company is amended with respect to rates and such schedule contains a fuel clause, at the time of amendment, the base price of coal contained in the uniform fuel adjustment clause applying to such schedule should be subject to review and modification by the Commission if found necessary, p. 61.

Rates, § 303 — Fuel clause — Uniform princinples — Modification by Commission.

12. A company required to file fuel clauses in accordance with uniform principles approved by the Commission should be at liberty to present the situation before the Commission for relief where the change in existing fuel clauses would work a hardship upon the particular utility in the operation

of the clause; and, should occasion arise in the future for a particular company, in carrying out the Commission's order relating to uniformity of fuel clauses, to require clarification of the order as applied to its particular case, such company should be permitted to make application to the Commission for such clarification, p. 61.

By the COMMISSION: Under date of October 11, 1943, the Commission ordered a hearing, giving notice thereof to all electric utility companies affected, to be held on Wednesday, October 27, 1943, at the office of the Commission in Hartford, in order to afford an opportunity to such companies to show cause why a fuel clause of the kind set forth below should not be adopted by them whenever any fuel clause is proposed in the rate schedule of an electric utility company:

"If the weighted average cost of fuel changes by more than 'X' cents from the base price of 'Z' dollars per equivalent net ton, the energy charge may be increased at the rate of 'Y' cents per kilowatt hour for each dollar per net ton of upward change in the price of fuel; and the energy charge shall be decreased at the same rate if the change in price of fuel is downward."

As the intention of the foregoing clause is to reflect quite accurately the effect of changes in the cost of fuel, amounts represented by "X," "Y" and "Z" should be determined uniformly, as follows:

"The base price, 'Z' dollars, shall be the weighted average cost to the company of fuel per equivalent net ton alongside the generating plant for a 5-year period ending with the year prior to the effective date of the rate schedule.

"The charge, 'X' cents, shall be a reasonable amount to constitute a neutral zone within which fluctuations may take place without the fuel clause becoming applicable for that rate classification.

"The energy charge, 'Y' cents shall be calculated by dividing the base price by the average consumption of fuel per kilowatt hour sold over the same period."

At the time and place assigned for a hearing, The Hartford Electric Light Company, The Connecticut Power Company, The Connecticut Light & Power Company, The United Illuminating Company, The Derby Gas & Electric Company, The Danbury & Bethel Gas & Electric Company, The Simsbury Electric Company, The Mystic Power Company, The Litchfield Electric Light & Power Company, and the Borough Electric Works of Wallingford, Connecticut, appeared either by counsel or other representative. Prior to the hearing The Torrington Electric Light Company and The Clinton Electric Light & Power Company by letters, dated October 18, 1943, and October 22, 1943, respectively, advised the Commission that they had no objection to the proposed uniform fuel clause.

In order to correct an error, the Commission amended at the hearing the definition of the symbol "Y," set forth in the formula above, to read as follows: "The energy charge 'Y'

cents shall be calculated by dividing the base price into the average cost of fuel per kilowatt hour sold over the same period."

Under date of March 17, 1944, the Commission ordered a further hearing, to be held on March 30, 1944, at the office of the Commission in Hartford, for the limited purpose of affording to interested parties an opportunity to present evidence and claims as to whether the uniform fuel adjustment clause to be contained in an electric rate schedule should direct, or merely permit, an upward adjustment when the base cost of fuel, as determined by the formula in the clause, increases beyond the neutral zone. At the time and place assigned for a further hearing The Hartford Electric Light Company, The Connecticut Power Company, The Connecticut Light and Power Company, The Clinton Electric Light and Power Company, The Derby Gas and Electric Company, and The United Illuminating Company appeared by counsel or other representative.

The order to show cause stems from a study in 1941 given to this matter by a committee composed of representatives of electric utility companies and engineers for the Commission which had for its purpose the designing of a uniform fuel clause to be included in the rate schedules of all electric utility companies subject to regulation by the Commission. The committee agreed on the desirability and principle of a uniform fuel clause but were not in accord respecting the method of carrying out the principle. Hence, the uniform fuel clause, set forth above, was prepared by the Commission's engineers in the light of the agreement in principle, for the purpose of determining whether this type of fuel clause or some other type should be prescribed by the Commission as a uniform fuel clause.

The Commission had occasion in the recent past to approve a fuel adjustment clause in the rate schedules of a gas and electric utility from which decision we quote in part as follows:

"The proposed amendments to the rates set forth in Group II above involve the introduction into the company's rate schedules of a so-called Fuel Adjustment Clause. This clause is designed not to increase the company's net revenue but to permit the company to recoup increases in the cost of fuel arising out of the present National Emergency and, at the same time, to give to the customers the benefit of any decrease in the cost of fuel that may occur in any subsequent downward trend of price levels. It is a matter of common knowledge that the cost of fuel has advanced substantially within the past year and no one is in a position to predict what this cost will be in the immediate future or within the next few years. If a utility company is to remain financially sound as a means of serving the public, some recognition must be given to increase in the cost of fuel as a major item of expense incurred in the generation of electricity and the production of gas.

"As a general principle, the fuel adjustment clause points the way toward the solution of one of the most acute problems in the utility rate-mak-

ing field, namely, that of integrating public utility rates, which are generally of a rigid nature, into a flexible national economy. The economic system of the country has been subjected in an increasing degree to strain by virtue of the tension occasioned by rigid public utility rates in a nonrigid general price situation. Anything that can be done to bring utility rates more nearly into harmony with the general economic system is to that extent a public gain. It should mean a better balance in the economic system and a more effective operation of economic forces. Fuel adjustment clauses also bring about a reduction in customer payment during a period of falling prices in depression eras when customers are most in need of reducing their living expenses. Likewise the increase in price to a customer occuring in an upward swing of price levels takes place at a time when the ability of customer to pay, as measured in dollars, has in most instances moved upwards.

"Fuel adjustment clauses have been usual in electric power rates and in gas rates applicable to industrial consumers. They have come into use for household customers in recent years in this state and in many companies in Massachusetts and several other New England states." (Docket No. 7203, dated June 17, 1942) 44 PUR(NS) 65, 67, 68.

The uniform fuel clause proposed by the Commission was based upon the following elements:

1. That the increase in the energy charge should be permissible rather than mandatory but the decrease in the energy charge should be mandatory.

2. The base price of the fuel from which the adjustment upward or downward would be determined should be constituted on the weighted average cost of fuel over a 5-year period of time.

3. There should be a neutral zone within which the price of the fuel might fluctuate upward or downward without causing an increase or decrease in the energy charge.

[1–12] The several electric utility companies at the hearing expressed their accord with the objective of a formula but objected to the particular formula, set forth above, principally on two grounds:

1. The weighted average cost to the company of fuel for a 5-year period prior to the effective date of the rate schedule might or might not be that upon which the filed rate was based and the period for determining the base fuel price should not, therefore, be defined in the formula.

2. The adjustment in the energy charge should reflect current generating efficiency rather than that of the five previous years, since the latter would be unjust to the consumer in a rising fuel market and unjust to the company in a falling fuel market.

The companies, therefore, in unanimous agreement, proposed the following principles with which all fuel clauses should conform:

"1. The fuel adjustment clause is designed not to increase the company's net revenue, but to recoup increases in the cost of the fuel and at the same time to give to the customers the

benefit of any decreases in the cost of fuel that may occur in any subsequent downward trend of price levels.

"2. The fuel adjustment clause shall—

"(a) provide that the cost of fuel shall be the price per net ton delivered alongside of generating stations, including inventory.

"(b) provide for the same basis of adjustment when the price of fuel is lower as when said price is higher than the base price.

"(c) provide that the basis of adjustment be consistent with the generating and delivery efficiency and shall be changed from time to time as changes in such efficiency justify.

"(d) provide, whenever the ends of equity as between company and customer can be served thereby, a neutral zone within which the adjustment will not apply but when the fuel price rises above or falls below the neutral zone the adjustment shall be applied from the base price.

"(e) be mandatory as to increases as well as to decreases."

At the further hearing held on March 30, 1944, the companies withdrew as one of the elements of a uniform fuel clause the provision that the clause be mandatory as to increases as well as to decreases, 2(e) above. In lieu thereof they agreed that a downward adjustment, reflecting a decrease in the cost of fuel, should be required in the order of the Commission, and an upward adjustment, reflecting an increase in the cost of fuel, might be permissive in the order of the Commission and left to the discretion of the utility as to whether or not it should be automatic. This change appears to the Commission to be proper, placing, as it does, on the public service corporation the responsibility for determining whether an upward adjustment shall take place upon an increase in the cost of fuel or shall remain stationary notwithstanding.

At the further hearing the companies made the following suggestions:

1. That where a fuel clause now contained in existing rate schedules of a company does not conform with the uniform principles, set forth above, the company amend its rate schedules so as to substitute the uniform fuel clause approved by the Commission, such substitution to take place within a fixed period of time from the issuance of the Commission's order.

2. That any company amending its rate schedules by the substitution of the approved uniform fuel clause, as provided in (1) above, need not change the base price of coal upon which its existing fuel clause is based, provided the rates in the schedules to which the existing fuel clause applies, are not thereby changed.

3. That when an existing schedule of a company is amended with respect to rates and such schedule contains a fuel clause, at such time the base price of coal contained in the uniform fuel adjustment clause applying to such rate schedule shall be subject to review and modification by the Commission if found necessary.

4. That in the order of the Commission special hardship cases, if any, be recognized, and the procedure for seeking relief be contained in the order.

The Commission believes that these suggestions should be adopted and they will be contained in the approval hereinafter given.

ORDER

Upon consideration, therefore, and from the evidence presented at the hearings, the Commission finds that the principles of a uniform fuel clause, as discussed above and set forth below, are fair, and should be, and hereby are, approved by the Commission as principles upon which should be founded fuel clauses for inclusion in the rate schedules of all electric utility companies subject to regulation by the Commission.

The Commission, therefore, *orders* each electric utility company subject to its regulation to submit within thirty days from the date of this order the language of the fuel clause which the company proposes to file when amending an existing rate schedule on file with the Commission or when filing an electric rate schedule with the Commission in which a fuel adjustment clause is presently contained or proposed to be contained. Said proposed fuel adjustment clauses shall be based upon the following principles:

1. The fuel adjustment clause is designed not to increase the company's net revenue, but to recoup increases in the cost of the fuel and at the same time to give to the customers the benefit of any decreases in the cost of fuel that may occur in any subsequent downward trend of price levels.

2. The fuel adjustment clause shall—

(a) provide that the cost of fuel shall be the price per net ton of coal, or its equivalent, delivered alongside of generating stations, including inventory.

(b) provide for the same basis of adjustment when the price of fuel is lower as when said price is higher than the base price.

(c) provide that the basis of adjustment be consistent with the generating and delivery efficiency and shall be changed from time to time as changes in such efficiency justify.

(d) provide, whenever the ends of equity as between company and customer can be served thereby, a neutral zone within which the adjustment will not apply, but when the fuel price rises above or falls below the neutral zone the adjustment shall be applied from the base price.

(e) provide that a downward adjustment, reflecting a decrease in the cost of fuel, shall be mandatory and an upward adjustment, reflecting an increase in the cost of fuel, shall be at the election of the utility. The fuel adjustment clause as filed shall indicate whether such upward adjustment will be applied automatically or only from time to time as the utility may decide.

Said proposed fuel adjustment clause shall be accompanied by an explanation of the method and manner of determining the base price, the average cost of fuel and the adjustment rate for increases or decreases in the energy charge.

The Commission further *orders* and directs:

1. That where a fuel clause now contained in existing rate schedules

of a company does not conform with the uniform principles, set forth above, the company shall amend its rate schedules so as to substitute a fuel clause which conforms to the uniform principles approved by the Commission, such substitution to take place within thirty days from the issuance of the Commission's approval of the language of the uniform fuel clause which the company proposes to file.

2. That any company amending its rate schedules by the substitution of the approved uniform fuel clause, as provided in (1) above, need not change the base price of coal from that upon which its existing fuel clause is based, provided the rates in the schedules to which the existing fuel clause applies are not thereby changed.

3. That when an existing schedule of a company is amended with respect to rates and such schedule contains a fuel clause, at the time of such amendment, the base price of coal contained in the uniform fuel adjustment clause applying to such schedule shall be subject to review and modification by the Commission, if found necessary.

The Commission further *orders* that should the change in existing fuel clauses to conform with the uniform principles approved work a hardship upon a particular electric utility in the operation of the clause, the company is at liberty to present the situation before the Commission for relief and, similarly, should any occasion arise in the future for a particular company, in carrying out this order of the Commission, to require clarification of the order as applied to its particular case, said company is at liberty to make application to the Commission for such clarification.

We hereby direct that notice of the foregoing be given by the secretary of this Commission by forwarding true and correct copies thereof to parties in interest and due return make.

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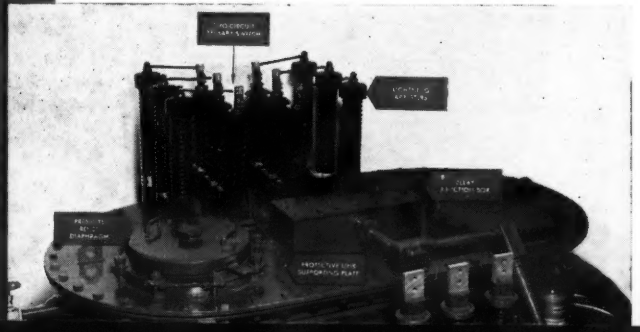
Described here is the application of the C.S.P. principle to Power Transformers. Totally self contained, this transformer can be installed and connected directly to primary and secondary circuits without bus structures or external auxiliaries of any kind. The features that make this possible are:

1. Three-position oil immersed primary switch, permitting switching under excitation to or from either of two three-phase lines.
2. Lightning arresters protecting both primary lines.
3. Rugged, internal primary fusible links of high interrupting capacity for isolating transformer from power lines in case of internal failure.
4. Ample, sealed air space above oil with weather proof pressure relief device.



Industrial Progress

Selected information about products, supplies and services offered by manufacturers. Also announcements of new literature and changes in personnel.

Saf-T-Dek Eliminates Slipping

THE Truscon Laboratories of Detroit, Michigan, announces the availability of Saf-T-Dek, a product of the war, which was developed to help make footing safer on slippery floors, steps, and walks.

Saf-T-Dek is a nonslip plastic covering applied to walking areas which comes ready for use and is applied with a trowel to a thickness of about one-thirty-second of an inch. It is a tough, tenacious material, according to the manufacturer, which sticks to practically any surface wood, steel, concrete, and even glass.

Available in two standard colors—tile red and concrete gray—Saf-T-Dek may also be had in a spark-proof type where nonsparking floors are considered necessary.

A bulletin, No. 553, on Saf-T-Dek may be obtained from the manufacturer.

J. S. Henderson Named Rural Electrification Coördinator

F. H. STOHR, manager of industry departments of the Westinghouse Electric & Mfg. Company, has announced the appointment of J. S. Henderson as coördinator of rural electrification for those departments.

A veteran of many years' service in the Westinghouse Industrial and Central Station Departments, Mr. Henderson, in coöperation with the separate industry departments and apparatus divisions, will be responsible for the development of rural business with the Rural Electrification Administration, private utilities, farm equipment manufacturers, and distributors.

New Boiler Meter Publication

COCHRANE Corporation, Philadelphia, has issued a publication (No. 4071) on the new Cochrane boiler ratio meter. Introductory pages describe methods of checking combustion efficiency in boiler plants. Then follow the requirements for an ideal boiler meter, and the detailed description of the Cochrane boiler ratio meter which it is claimed completely meets these ideal requirements.

Installation details are also given.

Unique Use of Hand-Lift Truck

RAILWAY maintenance shop men have developed another use for the Load King, a hand-lift truck manufactured by the Yale & Towne Manufacturing Company, Philadelphia, Pennsylvania, according to a recent announcement.

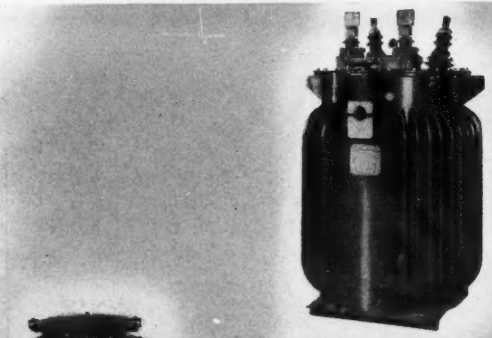
By placing 2 in. x 8 in. planks or other heavy timbers on the lifting platform of a Yale Load King it is thus built up until it is practically axle high. Next, it is elevated until the planks exert lifting pressure on the axle. At this point wood wedges are inserted, locking the axle (or axles—two may be carried).

The load is now secure—may be moved quickly and safely to any corner of the shop or yard.

New Water Cooling Publication

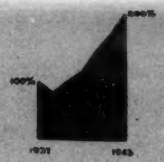
THE Marley Company, Inc., of Kansas City, Kansas, announced the publication of Bulletin 806 prepared primarily as an educational piece to give industrial users of water for cooling purposes a better understanding

(*Continued on page 36*)



Increase in Domestic Power Consumption.

Increase in Small Commercial and Industrial Power Consumption.



Increase in Large Commercial and Industrial Power Consumption.

Electric Power is the life-line of our Country's war effort. Fulfilling its mission as the "Arsenal of Democracy", the United States has undertaken an industrial program of staggering proportions. The demands for electric power have been increasing at an amazing rate. The Utilities are meeting this situation completely and efficiently. Although the reserve power capacity is appreciably reduced and the available equipment overloaded, the entire power supply system is kept in a highly satisfactory running condition by the untiring efforts of the Utility organizations.

Pennsylvania Transformer Company is proud to have a part in assisting the Power Companies during this period — by furnishing dependable transformers capable of carrying heavy overloads safely.

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of the engineering principles involved. The booklet also discusses best modern practice in the selection, application, operation, and maintenance of each type of water cooling equipment.

Copies of this publication may be obtained from the Marley Company, Inc., 3001 Fairfax Road, Kansas City, Kansas.

Kellogg Switchboard Announces Organization Changes

JAMES G. KELLOGG, president of the Kellogg Switchboard & Supply Company, announced the appointment of F. M. Parsons as sales manager and C. D. Manning as executive assistant to the president, both appointments becoming effective on June 26th.

Carr Named Institutional Advertising Manager

G. EDWARD PENDRAY, assistant to president of the Westinghouse Elec. & Mfg. Company, has announced the appointment of Richard C. Carr as manager of institutional advertising.

Mr. Carr will be responsible for the company's institutional copy, the commercials for the Westinghouse radio programs, the Public Relations Production Department and for other printed advertising matter.

Remington Rand Announces Visible Filing Equipment

REMINGTON RAND, Inc., announces the production of Kard-Site, a new line of offset visible filing equipment, which provides a new filing speed and accuracy for machine posted records. The operating principles are based on an advancement in the principle of offset vertical card filing originated by the Remington Rand library bureau division more than twenty years ago.

Kard-Site, according to the manufacturer, places thousands of records within normal reach and sight of the operator in an extremely compact filing arrangement, with dual visible margins that reduce "finding" time to 50 per cent of that required with ordinary vertical card filing systems. With the exact position of every card clearly indicated, "thumbing" through vertically filed records is eliminated and filing and finding accuracy increased.

Special advantages claimed by the manufacturer include visual signaling of the position of an "out" card that prevents misfiling and loss of records, and an automatic "lock-

(*Continued on page* 38)

down" feature that prevents the index guide from riding up to obscure other records.

Complete information on Kard-Site systems and equipment is available from any Remington Road branch office or from the Systems and Methods Research Division, 465 Washington street, Buffalo 5, New York.

Reliance Gauge Column Co. Receives Maritime "M"

COMING as an appropriate honor during their 60th year of operation, The Reliance Gauge Column Company of Cleveland, was awarded the U. S. Maritime Commission "M" at a ceremony in its plant July 15th. Charles E. Walsh, Director of Procurement of the Commission, officiated for the government. The company manufactures boiler safety devices for steam power plants.

New Fast Working Clamp

MECHANICS Engineering Company, of Jackson, Michigan, has developed a new design of clamp that is reported to have several interesting and useful features. It is the Cam-O-Lok clamp and is made in three types, for light, medium, and heavy duty.

The Cam-O-Lok clamp is said to be instantly adjustable over the entire range of its vertical holding capacity. When objects to be held vary in thickness, no adjustment of the hold-down bolt is necessary to obtain the desired clamping pressure. Locking and unlocking are accomplished by means of a threaded element in the positioning handle.

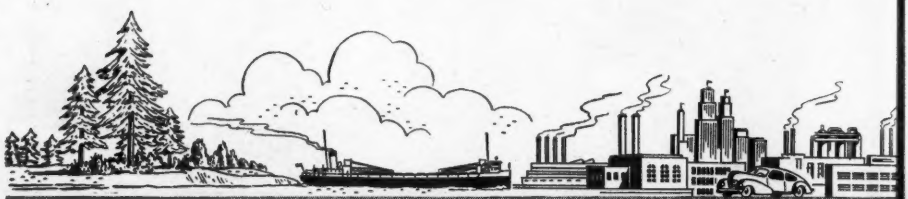
A circular, containing complete specifications, may be obtained from the manufacturer.

Personnel Changes

ELECTION of Howard P. DeVilbiss as president and general manager and of Allen D. Gutchess as chairman of the board and active senior executive of The DeVilbiss Company, Toledo, Ohio, was announced recently. The DeVilbiss Company is a leading producer of atomizers, spray painting equipment, exhaust systems, air compressors, hose and connections.

An Engineering Chief from Michigan writes:

"In addition to other benefits, standardization would also permit more time for engineers of operating companies to plan the best use of equipment, as the utilization of electricity further develops and load concentrations increase . . ."



REPETITIVE manufacture of heavy power apparatus of standard design makes possible more effective use of engineering talents by the user as well as the builder. Agreement on this point by leading engineers in the utility industry has done much to convince General Electric that its present program is on the right track.

How the builder can improve his engineering effectiveness is easy to see: More men can be employed and greater expenditures made on *fundamental* design improvements for new models, yet the engineering cost per unit will decrease.

For the operating company anxious to make best use of a highly competent engineering staff or consulting group, the great gain comes in reducing the time-consuming design work applied to perfection of detail. Your planning can concern itself with improved co-ordination in utilizing factory-assembled units in the system —a field offering far greater opportunities for economic gains.

From our experience with repetitively built unit substations, we can back up this reasoning with facts and figures. These data will be highly reassuring, we believe, to those who are "on the fence" as to the effect of repetitive manufacture upon engineering progress. *General Electric Co., Schenectady, N. Y.*

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• This Directory is reserved for engineers, accountants, rate experts, consultants, and others equipped to serve utilities in all matters relating to rate questions, appraisals, valuations, special reports, investigations, design, and construction. « « «

(Professional Directory Continued on Next Page)

PROFESSIONAL DIRECTORY (continued)

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*Fortnightly advertisers not in this issue.

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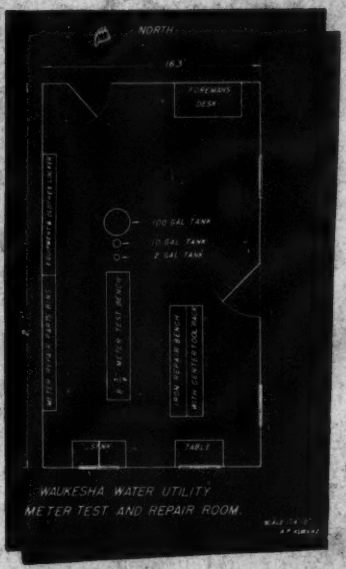
IN 1933 it was realized in Waukesha, Wisconsin, that with meters recording only 71.6% of the water pumped, a great deal of revenue was running to waste. Since that time, through research, experiment, planning and hard work, registration and revenues gradually increased until by 1941 yearly income was predictable to permit a reduction in water rates of 6.6%. And by the end of 1942 a registration of 92.78% was reached.

Improved meter registration has been responsible for the greatest share of this increase. You, too, can increase your sales by improved meter testing and repairing. Make plans *NOW* so that as soon as the opportunity presents itself, you are ready to begin to reap benefits from better metering. Trident representatives have gained valuable knowledge and information from such men as Mr. A. P. Kuranz, Manager of the Waukesha Water Department, and will be glad to assist you.



AN EFFICIENT METER SHOP
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